Fuel Oil and Kerosene Sales 1990

October 1991

Energy Information Administration

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Introduction

This publication contains the 1990 survey results of the "Annual Fuel Oil and Kerosene Sales Report" (Form EIA-821). This is the second year that the survey data have appeared in a separate publication. Prior to the 1989 report, the statistics appeared in the *Petroleum Marketing Annual* (PMA) for reference year 1988 and the *Petroleum Marketing Monthly* (PMM) for reference years 1984 through 1987. The 1990 edition marks the seventh annual presentation of the results of the ongoing "Annual Fuel Oil and Kerosene Sales Report" survey.

Except for the kerosene and on-highway diesel information, data presented in Tables 1 through 12 (Sales of Fuel Oil and Kerosene) present results of the EIA-821 survey. Tables 13 through 24 (Adjusted Sales of Fuel Oil and Kerosene) include volumes which are based on the EIA-821 survey but have been adjusted to equal the products supplied volumes published in the *Petroleum Supply Annual* (PSA).

Tables 1 through 12 contain sales estimates resulting from the EIA-821 survey for all categories except kerosene and on-highway diesel. For on-highway diesel the survey was not expected to yield valid statistics because the sampling frame does not include a comprehensive listing of all truck stops. Hence, State level data obtained from the Federal Highway Administration were used instead.

Kerosene sales data were not expected to be complete because a comprehensive listing of kerosene retailers was not available to serve as a sampling frame. It was thought that a complete frame would be expensive to construct because many kerosene retailers are convenience stores or other small businesses. Because of these concerns, kerosene sales data have been published only after adjusting the sales data so that they add to the U.S. total of kerosene product supplied from the PSA.

In Tables 13 through 24, estimates of distillate fuel oil and kerosene are adjusted at the PAD district level to equal published PSA volume estimates of products supplied. For certain sales categories, data obtained from alternate sources are used instead of the adjusted

numbers. See "Technical Note 3" for further explanation.

The adjustment procedure for residual fuel oil has been changed this year. In previous years, estimates of vessel bunkering volumes were obtained from the Bureau of the Census report, "United States Foreign Trade, Bunker Fuels." This Census report has now been discontinued. In order to minimize disruption to the residual fuel oil adjusted sales data series, the Census data have been removed from prior years' estimates and the adjustment to equal products supplied is performed at the national level. See the Appendix for revised State-level data for 1985 through 1988.

The sales data (Tables 1 through 12) differ from the adjusted sales estimates (Tables 13 through 24) for many reasons, including:

- Some products are interchangeable (fungible) and may be supplied as one product and sold as another product. For example, kerosene, kerosene-type jet fuel, and No.1 fuel oil can be used interchangeably.
- Products supplied into a PAD district may be blended prior to final sale. For example, residual fuel and No. 2 distillate may be blended and sold as No. 4 fuel oil or, in colder climates, kerosene may be blended with distillate fuel oil and sold as heating oil.
- Geographic differences can be attributed to the transportation of product by truck or rail from the district of production. Inter-PAD district movements of products by these modes of transportation are not accounted for in Tables 13 through 24.
- Products may be supplied into a PAD district but the final sale may cross PAD district boundaries. For example, a fuel oil dealer in Ohio (PAD District II) may make retail sales into Pennsylvania (PAD District IB) and/or West Virginia (PAD District IC).
- Drawdowns or buildups in stocks will cause volumes supplied to differ from sales volumes.

Sales of Fuel Oil and Kerosene in 1990

Overview

Demand for distillate and residual fuel oil, and kerosene fell significantly in 1990 as consumers experienced a mild winter, a sluggish economy, and high prices, the latter due to the Iraqi invasion of Kuwait. Overall, temperatures were 15.9 percent warmer than the previous year which resulted in fewer distillate fuel oil purchases by consumers for heating purposes.¹ Sales of fuel oil and kerosene were further reduced due to the fear of war in the Persian Gulf, which kept prices high, coupled with economic growth of only 0.9 percent.² Fuel switching capability and conversions to natural gas also contributed to fewer sales of distillate and residual fuel oil.

A total of 67.7 billion gallons of fuel oil and kerosene were sold to consumers in 1990, a decrease of 7.1 percent from the previous year's sales volumes. Of total fuel oil sold, distillate fuel oil accounted for 70.6 percent, an increase over last year's share of 68.3 percent. Residual fuel oil's share of total fuel oil sales fell from 28.9 percent to 28.4 percent. Kerosene's share of total fuel continued its decline from 1.8 to 1.0 percent.

Distillate Fuel Oil

A total of 47.8 billion gallons of distillate fuel oil was sold in the United States in 1990. Purchases of distillate fuel oil fell 3.9 percent from 1989. One of the largest declines was in sales to residential customers, whose purchases decreased 15.9 percent from the previous year. Sales were down primarily due to warmer weather and higher prices. Not only did consumers use less fuel oil due to warmer weather, but their concern over higher prices due to war in the Persian Gulf prompted more of them to convert to natural gas. According to the American Gas Association, in 1990, 218,951 homes in the U.S. converted to natural gas, over half of these conversions were from heating oil. The residential fuel oil share of total distillate sales also declined from 17.4 percent in 1989 to 15.2 percent in 1990.

Similar to residential sales, commercial customers purchased less distillate fuel oil for heating apartments, stores, and office buildings. Here, sales fell 6.8 percent from the previous year. The commercial share of total distillate sales fell from 8.6 percent in 1989 to 8.3 percent in 1990.

The transportation sector once again accounted for the majority of distillate fuel oil sales. Although total sales of distillate fuel oil to the transportation sector decreased by 100.9 million gallons, this sector's share of total distillate sales increased 2.0 percentage points, from 53.5 percent in 1989 to 55.5 percent in 1990 (Figure 1). Within the transportation sector, railroad and vessel bunkering distillate sales fell 4.2 and 8.6 percent, respectively. On-highway diesel sales were up slightly over 1989.

Despite higher prices and a sluggish economy, some end-use sector sales increased in 1990. Farm sales were up 1.3 percent from 1989. According to the National Agricultural Statistics Service, crop production and acreage were up 1.1 and .8 percent, respectively, over 1989. Oil company use distillate sales also increased in 1990 with the average number of rotary rigs in operation increasing 16.0 percent, 869 to 1,010 from 1989 to 1990.³ Off-highway diesel sales showed an increase of 7.0 percent as more diesel was sold to construction companies for highway improvement and building projects.

Geographically, the East Coast, Petroleum Administration for Defense (PAD) District I, used the most distillate fuel oil, 39.4 percent (Figure 2). PAD District I distillate fuel oil shares fell for the third straight year, down 2.6 and 1.3 percentage points from 1988 and 1989, respectively. Within PAD District I, the largest decrease in sales occurred in PAD District IB, the Mid-Atlantic States, down 11.6 percent from 1989. Sales also dropped in PAD District II, the Midwest; however, the share of distillate fuel oil in this PAD district increased from 28.8 percent to 29.6 percent. The share of distillate fuel oil sales for the remaining PAD districts remained approximately the same as they had in 1988 and 1989.

¹Energy Information Administration, *Short-Term Energy Outlook*, DOE/EIA-020(91/3Q) (Washington, D.C., August 1991), Table 2, p. 21.

²*Ibid.*, p. 21.

³Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035(91/08) (Washington, D.C., August 1991), Table 5.1, p. 66.

Residual Fuel Oil

Contrary to 1989, residual fuel oil sales decreased significantly in 1990, down 11.9 percent. Higher prices encouraged consumers to switch to natural gas. Prices of residual fuel oil in 1990 were on average 90 cents per million BTU's higher than natural gas.⁴ The most noticeable decrease in residual fuel oil sales were to electric utilities whose purchases dropped 1.0 billion gallons (10.3 percent) from the previous year.

Sales to commercial and industrial end-use sectors also showed large decreases from the past year, 15.1 and 15.4 percent, respectively. Higher residual fuel oil prices once again contributed to these decreases as commercial and industrial end-users switched to natural gas for heating their buildings and operating equipment.

Shippers purchased less residual fuel oil for bunkering their vessels. Here, sales dropped 12.0 percent from 1989. The largest decrease in residual fuel oil sales to this end-use category occurred in PAD District III, the Gulf Coast, where vessel bunkering sales decreased by 18.6 percent.

Within end-use sector sales, electric utilities dominated the residual fuel oil market with a 45.1 percent share of total residual fuel oil sales. This was an increase over 1989 when their share of total residual fuel oil sales accounted for 44.3 percent. Sales of residual fuel oil to electric utilities were concentrated in PAD District I, the East Coast, with a 83.6 share of total electric utility residual fuel oil sales (Figure 3).

As in past years, PAD District I, the East Coast, accounted for the largest volume of residual fuel oil sales, 11.6 billion gallons. Sales on the East Coast, however, showed a significant decrease of 13.6 percent. The largest decrease in this PAD district occurred in PAD District IA, the Northeast, down 17.9 percent from 1989. Sales in the Midwest, PAD District II, also showed substantial declines with a drop of 20.8 percent from the former year (Figure 2).

Sales in PAD District V, the West Coast, did not decrease as dramatically as those in other PAD districts. Residual fuel oil sales in PAD District V fell 2.2 percent in 1990. While other PAD districts share of residual fuel oil fell from 1989 to 1990, PAD District V displayed an increase in its share of residual fuel oil by 2.3 percentage points.

Kerosene

Sales of kerosene, which is generally used to supplement residential heating systems and to heat small areas, are highly dependent upon weather conditions and prices (Figure 4). The kerosene sales estimates fell drastically in 1990 due to warm weather, high prices, and the correction of misclassification. One major reporter of kerosene production reclassified its product as kerosene-type jet fuel in 1990.

The distribution of kerosene sales geographically and by end use shows that 74.8 percent of kerosene is sold on the East Coast, PAD District I, and that 72.6 percent is sold for residential use.

In 1990, 15.2 percent of total distillate fuel oil was sold to heat homes.

⁴Energy Information Administration, *Short-Term Energy Outlook*, DOE/EIA-020(91/3Q) (Washington, D.C., August 1991), Table 4, p. 23.

Figure 1. U.S. Sales of Distillate and Residual Fuel Oils by End Use, 1988-1990

*For distillate fuel oil, transportation use comprises railroad, vessel bunkering, and on-highway diesel end-use categories. For residual fuel oil, transportation use comprises the vessel bunkering end-use category.

Sources: Energy Information Administration, "Fuel Oil and Kerosene Sales," 1989 and 1990, Tables 1 and 2.

Figure 2. Volume Distribution of Distillate and Residual Fuel Oils by PAD District, 1988-1990

*Residual fuel oil sales in PAD District IV were too small to appear in this graph.
 Sources: Energy Information Administration, "Fuel Oil and Kerosene Sales," 1989 and 1990, Tables 4 and 5.

Figure 3. Distillate and Residual Fuel Oil Sales for Largest End-Use Categories, by PAD District

Distillate: Transportation

Residual: Electric Utility

Source: Energy Information Administration, "Fuel Oil and Kerosene Sales, 1990," Tables 4 and 5.

Typical Kerosene Heater Use

Kerosene is sold primarily to the residential sector for use in heating and cooking. The majority of kerosene is sold on the East Coast, Petroleum Administration Defense (PAD) District I, and in the Midwest, PAD District II (Table 6). The kerosene heater market consists of two types: vented and unvented. In the vented heater market, portable forced air (PFA) heaters are used in outdoor or ventilated areas, such as open ga-

rages, athletic playing fields, and camp sites. Single-family homes and trailers also have vented (chimney) heating systems which burn K-2 kerosene, No. 1 or No. 2 fuel oil. In the unvented heater market, wick heaters (named for the glass wool wick in the device) use K-1 kerosene to heat indoor areas such as specific sections or rooms of a house. Figure 4 provides background information on these two kinds of heaters.

Figure 4. Kerosene Heater Use

Heater/Size Fuel/Quality	Output (Btu/hr)	Tank Size (Gallons)	Fuel Use (Gallons/hr)	Heater Use (Hrs/day)
Wick: K-1 Kerosene				
Small	9,000	0.98	0.08	5 - 6
Large	23,000	1.60	0.17	5 - 6
PFA Heaters: K-1/K-2 Kerosene				
Small	40,000	4.00	2.5	1 - 2
Large	650,000	50.00	4.7	8 - 10

The majority of kerosene sold is for residential use.

Table 1. Sales of Distillate Fuel Oil by End Use in the United States: 1986-1990
(Thousand Gallons)

End Use	Distillate Fuel Oil				
	1986	1987	1988	1989	1990
U.S. Total	45,124,491	44,719,327	47,576,811	49,788,896	47,826,587
Residential	8,098,496	8,179,134	8,518,859	8,648,629	7,277,365
Commercial	4,542,253	4,299,580	4,294,182	4,277,105	3,986,624
Industrial	2,681,720	2,823,679	2,562,685	2,725,774	2,593,312
Oil Company	623,004	618,193	622,736	683,683	751,450
Farm	3,340,813	2,998,681	3,162,575	3,360,092	3,403,400
Electric Utility	583,579	562,665	720,137	887,599	793,709
Railroad	2,850,311	2,850,159	3,095,736	3,240,649	3,104,630
Vessel Bunkering	1,949,423	1,864,992	1,991,773	2,258,465	2,064,842
On-Highway Diesel	17,926,508	18,172,934	20,038,691	21,131,692	21,360,477
Military	720,880	712,822	830,614	852,839	709,232
Off-Highway Diesel	1,659,365	1,559,873	1,671,387	1,689,651	1,808,646
All Other	148,138	76,615	67,435	32,719	2,898

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1986-1990.

• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

Sales to the farm sector accounted for 7.1 percent of total distillate fuel oil sales.

Table 2. Sales of Residual Fuel Oil by End Use in the United States: 1986-1990
(Thousand Gallons)

End Use	Residual Fuel Oil				
	1986	1987	1988	1989	1990
U.S. Total	22,407,894	20,414,122	21,719,226	21,829,300	19,233,428
Commercial	1,996,238	1,877,933	1,927,533	1,792,634	1,522,125
Industrial	4,035,217	3,324,337	3,239,538	2,665,438	2,255,759
Oil Company	803,875	669,176	548,930	374,459	318,298
Electric Utility	9,345,361	8,237,163	9,464,457	9,680,974	8,679,851
Vessel Bunkering	5,889,476	6,105,089	6,354,536	7,191,689	6,326,322
Military	102,555	152,028	125,318	92,229	101,921
All Other^b	234,584	47,966	58,880	31,838	29,152

^b Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1986-1990.

Table 3. Sales of Kerosene by End Use in the United States: 1986-1990
(Thousand Gallons)

End Use	Kerosene				
	1986	1987	1988	1989	1990
U.S. Total	1,506,162	1,449,504	1,478,316	1,291,668	652,003
Residential	898,625	879,406	1,063,187	868,728	473,409
Commercial	369,800	360,413	193,476	204,258	87,672
Industrial	111,482	86,020	117,858	124,003	60,432
Farm	37,824	32,025	33,426	30,081	16,691
All Other	88,431	91,641	70,370	64,598	13,804

Note: Totals may not equal sum of components due to independent rounding.

Note: Kerosene data in the Sales tables (1-12) are adjusted at the national level. See Technical Note 3 for further explanation.

Sources: • Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1986-1990, (DOE/EIA-0340(86)/1 - (90)/1).

Table 4. Sales of Distillate Fuel Oil by End Use, 1989 and 1990
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1989	1990	1989	1990	1989	1990
U.S. Total	8,648,629	7,277,365	4,277,105	3,986,624	2,725,774	2,593,312
PAD District I Total	6,901,689	5,808,053	2,854,869	2,655,048	973,890	903,065
Subdistrict IA Total	2,417,886	2,143,653	747,555	683,825	208,952	166,165
Connecticut	686,835	588,360	165,454	150,845	44,923	30,273
Maine	274,107	259,448	78,242	86,925	31,487	20,602
Massachusetts	991,111	890,156	374,122	321,109	97,355	83,167
New Hampshire	207,964	174,821	57,275	61,309	14,831	11,852
Rhode Island	153,441	131,512	37,598	34,645	10,615	8,536
Vermont	104,429	99,356	34,865	28,992	9,742	11,735
Subdistrict IB Total	3,831,255	3,111,865	1,630,541	1,462,992	368,184	352,851
Delaware	63,785	49,794	14,385	17,396	10,270	9,803
District of Columbia	7,029	7,604	26,060	25,817	122	36
Maryland	248,079	220,392	96,750	107,876	35,073	31,346
New Jersey	768,811	592,045	394,225	356,100	80,499	70,980
New York	1,679,326	1,366,014	746,919	668,051	71,328	66,543
Pennsylvania	1,064,225	875,725	352,203	287,752	172,892	174,143
Subdistrict IC Total	652,549	552,535	476,773	508,232	396,754	384,049
Florida	17,517	12,026	134,121	166,978	45,937	43,068
Georgia	12,884	12,862	47,056	65,424	50,211	57,124
North Carolina	225,742	183,115	113,509	99,784	93,239	77,782
South Carolina	61,869	51,984	44,673	31,240	28,586	31,144
Virginia	303,435	263,009	113,531	122,014	85,089	73,040
West Virginia	31,102	29,538	23,883	22,792	93,691	101,892
PAD District II Total	1,404,069	1,152,954	693,799	648,066	794,541	762,579
Illinois	79,973	60,416	71,308	77,954	91,162	83,442
Indiana	117,061	86,565	58,438	53,910	102,287	94,403
Iowa	53,894	40,112	24,778	24,944	16,214	17,207
Kansas	1,620	1,218	16,870	14,247	12,531	11,314
Kentucky	37,696	32,435	32,845	33,039	168,586	187,132
Michigan	241,391	209,824	105,118	87,119	60,339	50,226
Minnesota	227,397	162,238	52,285	47,303	44,337	40,963
Missouri	23,967	17,858	46,851	44,463	40,278	33,140
Nebraska	12,598	8,499	11,519	12,448	6,080	5,563
North Dakota	46,192	42,526	9,402	7,597	21,476	18,829
Ohio	231,366	205,422	85,349	83,195	134,230	122,840
Oklahoma	20	9	32,264	27,126	26,845	25,297
South Dakota	45,547	40,555	11,148	10,477	6,198	6,062
Tennessee	12,373	11,919	33,615	32,012	38,175	44,685
Wisconsin	272,972	233,359	102,007	92,232	25,803	21,475
PAD District III Total	2,231	1,509	238,661	209,284	316,694	303,835
Alabama	1,055	751	37,727	32,031	59,432	88,052
Arkansas	23	14	13,515	12,932	16,765	18,556
Louisiana	237	273	25,967	32,119	17,725	21,570
Mississippi	200	40	26,273	17,336	17,242	20,718
New Mexico	323	354	15,544	18,459	32,365	23,602
Texas	394	77	119,634	96,408	173,164	131,337
PAD District IV Total	48,390	44,080	73,666	65,995	192,731	198,346
Colorado	1,709	1,192	22,055	19,163	34,375	37,736
Idaho	22,843	23,197	14,257	14,911	29,332	25,386
Montana	14,991	12,629	8,343	6,681	44,728	49,200
Utah	7,488	6,003	18,796	15,780	31,308	36,992
Wyoming	1,361	1,058	10,216	9,459	52,988	49,033
PAD District V Total	292,250	210,769	416,111	408,231	447,917	425,488
Alaska	66,705	67,183	36,238	45,468	37,130	7,463
Arizona	296	410	16,445	19,755	62,315	57,107
California	10,578	8,717	202,765	177,415	176,086	181,771
Hawaii	17	3	21,756	19,611	4,280	5,814
Nevada	11,078	9,232	16,634	13,490	99,407	100,605
Oregon	82,988	68,979	47,226	51,677	28,868	29,587
Washington	120,587	115,915	75,037	80,815	39,830	43,141

See footnotes at end of table.

Table 4. Sales of Distillate Fuel Oil by End Use, 1989 and 1990—Continued
(Thousand Gallons)

Destination	Oil Company		Farm		Electric Utility	
	1989	1990	1989	1990	1989	1990
U.S. Total	683,683	751,450	3,360,092	3,403,400	887,599	763,709
PAD District I Total	44,067	41,335	457,637	467,690	516,159	409,709
Subdistrict IA Total	2,106	3,630	21,820	21,969	32,525	47,260
Connecticut	329	255	2,897	1,788	4,431	3,202
Maine	463	2,273	5,219	5,242	2,398	643
Massachusetts	877	739	3,345	5,310	20,113	38,007
New Hampshire	123	66	2,254	2,176	2,720	1,649
Rhode Island	287	276	229	952	1,613	3,378
Vermont	27	21	7,876	6,501	1,248	380
Subdistrict IB Total	36,606	31,603	165,860	161,052	330,245	180,315
Delaware	309	355	6,369	7,441	11,774	4,300
District of Columbia	-	-	-	-	59,210	45,465
Maryland	1,113	1,101	27,197	23,925	52,289	30,290
New Jersey	4,869	3,044	21,972	20,282	45,090	8,032
New York	11,822	11,021	56,179	53,033	93,882	37,143
Pennsylvania	18,492	16,082	53,843	56,371	67,999	55,085
Subdistrict IC Total	5,355	6,102	269,956	284,669	153,389	182,134
Florida	1,125	1,411	54,642	61,261	65,510	92,531
Georgia	321	249	95,374	102,951	13,291	9,817
North Carolina	93	110	45,504	39,514	18,444	15,847
South Carolina	344	824	31,491	32,587	9,775	8,220
Virginia	1,251	826	37,243	40,268	27,881	40,401
West Virginia	2,220	2,682	5,702	8,089	18,488	15,317
PAD District II Total	72,953	72,948	1,678,844	1,699,742	154,963	162,609
Illinois	7,323	974	205,518	214,586	20,280	18,130
Indiana	1,121	1,180	101,433	96,782	23,953	19,223
Iowa	85	28	177,815	178,255	3,975	4,241
Kansas	9,667	10,802	159,526	160,178	6,144	5,492
Kentucky	823	807	46,509	49,714	14,074	14,475
Michigan	1,630	2,127	72,086	73,687	31,072	27,384
Minnesota	631	604	155,934	154,343	5,252	4,607
Missouri	380	353	95,572	86,059	7,915	9,235
Nebraska	27	46	175,469	188,698	3,211	2,082
North Dakota	5,326	6,644	108,306	100,764	3,540	2,284
Ohio	7,414	2,448	90,144	96,538	17,498	26,286
Oklahoma	37,330	46,091	49,546	50,671	446	3,317
South Dakota	14	25	89,756	89,709	709	317
Tennessee	664	756	47,708	50,426	2,835	11,169
Wisconsin	513	61	103,523	109,333	14,060	14,367
PAD District III Total	494,433	550,440	541,353	545,375	94,515	71,272
Alabama	7,313	13,692	44,127	51,790	8,627	9,523
Arkansas	3,594	1,810	67,379	59,150	9,110	10,230
Louisiana	240,380	260,388	67,122	70,755	16,759	8,216
Mississippi	13,504	6,948	97,469	118,651	4,173	3,790
New Mexico	8,437	12,486	12,381	10,917	5,225	4,700
Texas	221,206	255,116	252,875	234,112	50,623	34,812
PAD District IV Total	20,389	20,914	191,225	198,674	15,576	12,359
Colorado	1,283	2,615	53,285	46,891	4,246	2,024
Idaho	8	-	66,552	73,839	22	13
Montana	1,066	1,360	52,506	55,857	2,100	1,974
Utah	4,347	2,350	9,413	8,194	3,532	3,775
Wyoming	13,686	14,589	9,469	13,893	5,676	4,573
PAD District V Total	51,841	65,812	491,034	491,919	106,386	107,760
Alaska	28,599	38,875	269	25	18,061	18,106
Arizona	70	379	33,116	24,509	3,605	3,683
California	20,300	21,076	316,155	330,968	16,223	5,993
Hawaii	966	2,021	11,649	13,067	61,077	72,936
Nevada	336	322	5,428	5,599	2,171	4,039
Oregon	292	440	51,532	44,694	4,412	369
Washington	1,279	2,699	72,885	73,056	837	2,635

See footnotes at end of table.

Table 4. Sales of Distillate Fuel Oil by End Use, 1989 and 1990—Continued
(Thousand Gallons)

Destination	Railroad		Vessel Bunkering		On-Highway	
	1989	1990	1989	1990	1989	1990
U.S. Total	3,240,649	3,104,630	2,258,465	2,064,842	21,131,692	21,360,477
PAD District I Total	551,268	488,027	521,110	517,875	6,752,738	6,840,031
Subdistrict IA Total	35,962	28,233	67,894	70,509	827,956	762,371
Connecticut	5,374	6,140	2,249	2,593	257,361	198,547
Maine	6,377	4,803	14,097	14,590	139,908	168,243
Massachusetts	19,591	13,230	43,961	45,791	271,944	261,683
New Hampshire	36	60	387	899	59,561	51,811
Rhode Island	530	780	6,778	6,232	52,932	40,645
Vermont	3,154	3,219	422	404	46,250	41,442
Subdistrict IB Total	178,330	127,338	191,904	171,571	2,571,926	2,615,308
Delaware	1,030	1,530	3,746	3,751	74,089	52,637
District of Columbia	13,191	6,756	25	18	23,064	22,551
Maryland	40,728	35,573	10,012	10,748	351,150	291,462
New Jersey	62,243	29,342	136,982	107,710	453,482	420,466
New York	17,457	11,872	11,409	9,693	754,276	907,848
Pennsylvania	43,679	42,263	29,720	39,650	915,865	920,344
Subdistrict IC Total	337,876	332,456	261,312	275,796	3,352,856	3,462,352
Florida	84,939	87,689	103,032	111,537	899,369	881,047
Georgia	65,462	67,338	40,099	26,264	838,847	854,952
North Carolina	36,898	43,522	9,930	11,814	614,485	620,268
South Carolina	30,723	28,583	6,186	5,616	302,614	417,636
Virginia	93,726	81,567	23,071	38,992	537,569	540,468
West Virginia	26,127	23,771	72,993	81,572	159,972	147,981
PAD District II Total	1,326,339	1,358,140	488,790	445,654	7,253,324	7,315,808
Illinois	138,438	141,136	39,678	45,877	839,968	1,141,593
Indiana	225,525	224,544	11,125	9,275	784,441	801,335
Iowa	33,695	26,760	2,896	5,540	349,044	372,390
Kansas	168,700	192,893	-	-	303,893	310,213
Kentucky	115,661	118,577	118,211	99,857	692,215	488,180
Michigan	42,376	39,027	5,491	3,653	528,906	527,744
Minnesota	39,159	67,002	3,221	4,261	331,625	330,563
Missouri	34,624	25,864	53,014	77,037	641,680	587,288
Nebraska	121,912	107,399	80	-	208,258	218,344
North Dakota	36,188	37,211	-	-	90,544	90,699
Ohio	122,714	115,248	10,171	12,409	960,195	923,811
Oklahoma	77,737	104,426	321	125	394,174	380,222
South Dakota	2,357	2,401	-	-	91,221	99,095
Tennessee	61,730	67,077	210,942	184,636	587,396	605,871
Wisconsin	105,521	94,575	3,641	2,984	449,764	438,460
PAD District III Total	636,216	565,436	730,531	623,662	3,221,237	3,298,116
Alabama	66,745	60,839	102,207	69,903	544,882	564,351
Arkansas	34,945	35,012	487	1,633	395,236	383,712
Louisiana	78,426	59,720	336,513	346,687	385,621	434,629
Mississippi	17,760	17,839	55,534	47,004	302,523	310,708
New Mexico	51,784	39,802	-	-	205,916	220,011
Texas	386,555	352,224	235,789	158,435	1,387,059	1,384,705
PAD District IV Total	310,192	293,932	131	175	734,904	821,171
Colorado	87,970	74,822	62	-	185,519	217,149
Idaho	19,585	20,320	69	175	117,246	126,723
Montana	58,855	48,710	-	-	119,503	123,867
Utah	34,590	35,804	-	-	125,184	178,793
Wyoming	109,191	114,276	-	-	187,452	174,639
PAD District V Total	416,635	399,094	547,903	477,476	3,169,489	3,085,351
Alaska	4,927	5,322	138,221	129,866	96,446	82,538
Arizona	8,288	9,935	-	-	314,671	331,183
California	2,6816	225,930	208,063	153,578	1,913,647	1,819,718
Hawaii	17	18	86,679	91,058	23,717	24,968
Nevada	23,341	5,345	-	-	131,055	133,250
Oregon	85,764	82,463	35,865	37,419	311,843	334,950
Washington	77,481	70,082	79,074	65,556	378,110	358,744

See footnotes at end of table.

Table 4. Sales of Distillate Fuel Oil by End Use, 1989 and 1990—Continued
(Thousand Gallons)

Destination	Military		Off-Highway		All Other		Total	
	1989	1990	1989	1990	1989	1990	1989	1990
U.S. Total	852,839	709,232	1,689,651	1,808,646	32,719	2,898	49,788,896	47,826,587
PAD District I Total	162,510	145,864	530,679	543,439	12,998	617	20,279,614	18,820,953
Subdistrict IA Total	17,361	12,579	76,448	67,523	687	116	4,456,252	4,007,833
Connecticut	702	732	21,512	20,093	551	-	1,192,619	1,002,829
Maine	3,431	6,267	14,755	8,344	45	-	570,529	577,381
Massachusetts	2,285	2,473	20,943	22,829	-	-	1,845,647	1,684,494
New Hampshire	1,772	612	8,821	8,317	-	-	355,744	313,571
Rhode Island	8,907	2,362	3,844	2,316	91	0	276,865	231,635
Vermont	264	132	6,572	5,624	-	116	214,849	197,923
Subdistrict IB Total	63,949	37,350	208,065	216,743	3,838	167	9,580,703	9,469,154
Delaware	98	233	4,830	4,759	-	-	190,686	151,998
District of Columbia	3,444	5,507	36	68	-	-	132,181	113,912
Maryland	25,677	12,861	36,975	32,749	2,954	115	920,296	798,640
New Jersey	10,489	5,097	60,297	55,356	55	-	2,039,025	1,668,455
New York	11,967	11,024	46,325	45,885	4	26	3,500,894	3,188,155
Pennsylvania	12,274	2,627	59,601	77,926	825	26	2,791,619	2,547,994
Subdistrict IC Total	81,200	95,936	246,166	259,173	8,474	533	6,242,660	6,343,967
Florida	23,342	9,921	75,442	74,028	1,503	-	1,506,480	1,541,498
Georgia	10,522	7,890	43,889	49,153	1,851	-	1,219,807	1,254,019
North Carolina	8,960	9,333	30,641	32,672	2,568	187	1,200,013	1,133,948
South Carolina	2,939	3,726	30,580	35,852	1,044	0	550,822	647,413
Virginia	35,251	64,878	42,212	42,685	1,493	298	1,307,754	1,308,437
West Virginia	187	187	23,402	24,783	15	49	457,784	458,651
PAD District II Total	53,700	42,915	410,067	489,271	16,777	1,643	14,318,165	14,152,329
Illinois	5,337	1,683	45,245	84,368	194	102	1,544,425	1,870,262
Indiana	7,914	4,956	35,500	37,013	3,397	-	1,472,196	1,429,186
Iowa	327	618	11,561	12,629	2,260	217	676,545	682,940
Kansas	1,030	2,439	14,882	14,011	1,928	660	696,792	723,468
Kentucky	6,529	6,245	26,279	24,731	23	-	1,259,451	1,055,193
Michigan	3,791	1,935	54,695	45,459	2,101	-	1,148,997	1,068,185
Minnesota	2,445	1,483	31,523	41,438	2,190	266	896,000	849,070
Missouri	6,017	5,337	25,902	31,708	1,403	171	977,602	918,513
Nebraska	1,281	350	20,582	14,156	-	-	561,016	557,585
North Dakota	1,620	1,662	5,433	4,470	234	10	328,260	312,696
Ohio	10,358	10,127	33,691	37,043	404	-	1,703,534	1,635,368
Oklahoma	1,796	1,779	26,563	33,577	274	19	647,317	672,659
South Dakota	616	458	6,798	7,147	651	68	255,015	256,315
Tennessee	3,355	2,995	32,072	51,399	785	41	1,031,648	1,062,985
Wisconsin	1,282	848	39,341	50,122	935	89	1,119,367	1,057,905
PAD District III Total	323,472	199,914	275,769	293,679	2,505	186	6,877,617	6,662,708
Alabama	4,634	3,107	46,724	44,952	1,461	3	924,336	938,993
Arkansas	1,514	965	23,503	25,496	46	45	566,118	549,554
Louisiana	60,773	26,387	40,216	43,425	201	109	1,269,939	1,304,278
Mississippi	53,723	11,022	24,562	20,558	118	-	613,082	574,615
New Mexico	667	897	15,716	17,413	35	-	348,395	348,641
Texas	202,160	157,536	125,047	141,836	643	29	3,155,148	2,946,627
PAD District IV Total	13,402	13,518	91,261	104,599	438	226	1,692,305	1,773,990
Colorado	8,144	6,378	26,668	30,263	45	45	425,360	438,278
Idaho	720	1,985	13,524	20,130	25	67	284,182	306,746
Montana	342	466	15,587	13,938	24	55	318,045	314,738
Utah	4,016	4,504	18,086	18,348	-	-	256,759	310,542
Wyoming	181	185	17,396	21,920	344	59	407,959	403,685
PAD District V Total	299,754	307,021	381,876	377,657	-	27	6,621,195	6,416,607
Alaska	35,657	44,116	14,630	14,893	-	-	476,883	454,155
Arizona	2,358	2,839	39,741	37,984	-	-	480,906	487,783
California	215,013	210,295	202,235	206,249	-	-	3,497,880	3,341,731
Hawaii	32,595	35,541	5,680	10,509	-	-	248,444	275,557
Nevada	4,605	4,148	25,183	19,410	-	-	319,239	295,441
Oregon	767	1,341	46,647	35,188	-	27	696,206	687,133
Washington	8,758	8,741	47,759	53,425	-	-	901,637	874,807

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989 and 1990.

• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

Table 5. Sales of Residual Fuel Oil by End Use, 1989 and 1990
(Thousand Gallons)

Destination	Commercial		Industrial		Oil Company		Electric Utility	
	1989	1990	1989	1990	1989	1990	1989	1990
U.S. Total	1,792,634	1,522,125	2,665,438	2,255,759	374,459	318,298	9,680,974	8,679,851
PAD District I Total	1,467,476	1,295,211	1,816,158	1,568,987	156,577	108,896	8,498,763	7,256,983
Subdistrict IA Total	389,952	358,291	516,977	393,157	964	455	2,282,698	1,857,800
Connecticut	72,392	41,141	78,299	55,893	964	304	740,308	548,738
Maine	89,498	84,986	222,110	190,499	-	-	217,011	159,901
Massachusetts	180,430	177,907	159,828	103,427	-	150	1,089,908	958,893
New Hampshire	22,345	25,765	28,737	20,767	-	-	213,234	179,234
Rhode Island	21,382	23,753	23,233	18,004	-	-	22,237	11,035
Vermont	3,905	4,742	4,769	4,568	-	-	-	-
Subdistrict IB Total	946,321	819,357	598,962	533,275	150,828	103,183	4,279,018	3,471,615
Delaware	10,931	7,078	27,018	22,626	18,441	6,649	171,304	97,380
District of Columbia	6,051	8,685	13	29	-	-	-	-
Maryland	66,443	21,803	43,144	46,065	2,544	2,605	399,819	297,623
New Jersey	83,931	58,074	185,214	138,258	5,617	5,819	519,702	259,210
New York	742,287	692,131	201,398	184,236	1,004	2,084	2,751,059	2,522,590
Pennsylvania	42,677	31,586	142,175	142,060	120,167	86,026	437,134	294,812
Subdistrict IC Total	131,203	117,563	700,220	642,555	4,786	5,258	1,937,047	1,927,568
Florida	92,795	94,079	134,636	127,935	96	105	1,706,257	1,820,847
Georgia	12,102	2,704	78,820	78,262	992	1,368	610	-
North Carolina	10,588	8,865	213,468	201,815	2,132	1,898	-	-
South Carolina	1,746	633	93,020	74,984	496	127	-	-
Virginia	9,852	8,652	135,027	111,721	1,070	1,762	230,180	106,721
West Virginia	4,119	2,581	45,250	47,838	-	-	-	-
PAD District II Total	71,309	45,022	450,361	365,784	141,322	129,026	195,060	142,789
Illinois	10,679	8,125	53,592	47,303	50,555	20,914	70,987	63,160
Indiana	16,483	2,463	81,617	76,305	44,209	65,719	-	-
Iowa	1,544	1,202	7,025	3,732	-	-	-	-
Kansas	465	1,058	12,078	6,568	2,209	627	-	2,636
Kentucky	12	12	15,157	13,851	6,968	7,501	-	-
Michigan	4,215	2,837	74,584	48,579	8,328	7,665	86,356	55,459
Minnesota	12,545	10,306	26,182	16,133	10,756	11,719	6	-
Missouri	1,628	2,369	19,641	20,652	-	-	14,287	10,711
Nebraska	2,027	795	12,667	9,385	-	-	2,501	-
North Dakota	1,282	891	4,456	3,887	7,878	8,029	240	299
Ohio	832	873	77,083	56,196	6,048	3,208	20,683	7,374
Oklahoma	2,126	3,202	15,849	19,265	-	-	-	3,149
South Dakota	1,053	973	2,036	1,420	-	-	-	-
Tennessee	2,463	1,301	18,462	10,448	222	266	-	-
Wisconsin	13,957	8,612	29,932	32,060	4,148	3,378	-	-
PAD District III Total	49,806	28,484	173,931	162,887	719	1,157	74,519	67,715
Alabama	23,425	24,089	16,121	17,679	-	-	-	-
Arkansas	-	-	11,106	8,504	-	-	5,657	615
Louisiana	11,849	1,573	66,507	44,939	24	34	8,422	8,147
Mississippi	612	-	50,276	37,655	-	-	50,793	49,252
New Mexico	-	-	6,909	4,590	-	-	1,754	1,057
Texas	13,921	2,822	23,012	49,521	695	1,123	7,893	8,643
PAD District IV Total	2,777	4,115	7,695	5,831	14,103	15,205	39	3,498
Colorado	278	-	676	498	-	-	3	-
Idaho	1,235	739	892	1,100	-	-	-	700
Montana	602	434	64	403	7,641	7,815	-	-
Utah	636	2,916	5,647	3,719	5,510	6,046	-	2,798
Wyoming	25	25	415	112	952	1,343	36	-
PAD District V Total	201,265	149,292	217,293	152,270	61,738	64,014	912,593	1,208,867
Alaska	-	-	-	4,620	-	-	-	-
Arizona	-	-	271	720	-	-	3,352	2,744
California	35,113	35,101	106,945	53,957	19,806	19,149	368,484	690,098
Hawaii	150,434	100,745	5,640	5,446	30,772	35,239	516,208	505,140
Nevada	81	85	2,693	306	300	-	24,548	10,885
Oregon	12,341	11,267	16,917	17,711	126	-	-	-
Washington	3,296	2,094	84,827	69,509	10,733	9,627	-	-

See footnotes at end of table.

Table 5. Sales of Residual Fuel Oil by End Use, 1989 and 1990—Continued
(Thousand Gallons)

Destination	Vessel Bunkering		Military		All Other ^b		Total	
	1989	1990	1989	1990	1989	1990	1989	1990
U.S. Total	7,191,689	6,326,322	92,229	101,921	31,838	29,152	21,829,300	19,233,428
PAD District I Total	1,381,741	1,276,853	79,609	85,244	208	137	13,400,532	11,592,310
Subdistrict IA Total	49,484	55,994	22,627	12,300	-	71	3,262,701	2,678,067
Connecticut	341	935	2,714	2,426	-	71	895,018	649,509
Maine	5,729	2,610	3,580	3,249	-	-	537,928	441,245
Massachusetts	42,742	52,448	12,607	1,884	-	-	1,485,516	1,294,709
New Hampshire	-	-	919	3,250	-	-	265,236	229,014
Rhode Island	671	-	2,497	1,363	-	-	70,020	54,154
Vermont	-	-	310	127	-	-	8,984	9,436
Subdistrict IB Total	758,807	629,734	35,854	44,174	-	16	6,769,789	5,601,354
Delaware	41,561	34,870	-	926	-	-	269,255	169,529
District of Columbia	-	-	1,853	119	-	-	7,917	8,834
Maryland	92,725	52,844	20,756	19,747	-	-	619,797	440,687
New Jersey	417,851	278,952	2,534	10,340	-	-	1,215,849	750,653
New York	17,095	43,416	7,724	10,588	-	16	3,722,257	3,455,062
Pennsylvania	189,574	219,652	2,986	2,454	-	-	934,713	776,590
Subdistrict IC Total	573,450	591,125	21,128	28,769	208	50	3,368,042	3,312,888
Florida	372,112	387,635	6,537	8,006	-	50	2,312,433	2,438,656
Georgia	29,423	47,436	1,706	4,542	-	-	123,654	134,311
North Carolina	27,619	16,371	3,693	4,034	208	-	257,706	232,982
South Carolina	25,874	19,802	5,558	185	-	-	126,694	95,780
Virginia	118,421	119,881	3,635	12,004	-	-	498,185	360,741
West Virginia	-	-	-	-	-	-	49,369	50,418
PAD District II Total	18,710	14,566	3,760	684	464	309	880,987	698,180
Illinois	2,671	2,034	-	-	-	68	188,483	141,605
Indiana	9,908	7,745	-	-	-	-	152,217	152,233
Iowa	-	-	8	7	-	-	8,578	4,941
Kansas	-	-	-	-	-	6	14,752	10,895
Kentucky	-	-	-	-	-	-	22,137	21,364
Michigan	5,397	3,653	-	-	62	66	178,943	118,260
Minnesota	73	-	-	-	130	-	49,692	38,158
Missouri	-	836	3,250	507	-	-	38,806	35,075
Nebraska	-	-	-	-	16	-	17,211	10,180
North Dakota	-	-	-	-	256	170	14,111	13,277
Ohio	451	203	-	-	-	-	105,097	67,854
Oklahoma	-	-	-	-	-	-	17,974	25,617
South Dakota	-	-	2	6	-	-	3,091	2,399
Tennessee	22	29	500	165	-	-	21,669	12,208
Wisconsin	187	65	-	-	-	-	48,224	44,115
PAD District III Total	2,535,626	2,064,369	1,077	4,086	-	-	2,635,679	2,328,698
Alabama	130,922	109,893	1,077	4,086	-	-	171,545	155,747
Arkansas	-	-	-	-	-	-	16,763	9,119
Louisiana	1,130,135	864,659	-	-	-	-	1,216,936	919,352
Mississippi	56,303	60,954	-	-	-	-	157,984	147,861
New Mexico	-	-	-	-	-	-	8,663	5,647
Texas	1,218,266	1,028,863	-	-	-	-	1,263,788	1,090,972
PAD District IV Total	-	-	-	1,899	225	98	24,858	30,646
Colorado	-	-	-	-	-	-	957	498
Idaho	-	-	-	-	-	12	2,127	2,551
Montana	-	-	-	-	197	-	8,504	8,652
Utah	-	-	-	1,899	-	-	11,802	17,379
Wyoming	-	-	-	-	28	86	1,467	1,567
PAD District V Total	3,255,612	2,970,534	7,783	10,008	30,942	28,607	4,687,244	4,583,593
Alaska	5,530	5,495	-	-	-	-	5,530	10,116
Arizona	-	-	-	-	-	-	3,623	3,463
California	2,297,366	2,156,177	-	-	-	-	2,827,714	2,954,481
Hawaii	101,297	100,294	3,196	5,385	30,877	28,542	838,424	780,791
Nevada	-	-	-	-	-	-	27,622	11,276
Oregon	222,279	147,140	-	44	65	65	251,747	176,228
Washington	629,140	561,428	4,587	4,580	-	-	732,584	647,237

^b Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989 and 1990.

Table 6. Sales of Kerosene by End Use, 1989 and 1990
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1989	1990	1989	1990	1989	1990
U.S. Total	868,728	473,409	204,258	87,672	124,003	60,432
PAD District I Total	693,220	375,823	111,793	59,306	90,544	35,703
Subdistrict IA Total	90,905	58,185	17,623	11,995	6,127	3,691
Connecticut	12,034	8,218	6,084	2,158	3,910	2,299
Maine	33,753	23,628	3,940	2,848	365	162
Massachusetts	11,345	6,834	2,708	5,350	1,552	308
New Hampshire	19,709	9,804	2,276	1,046	84	54
Rhode Island	2,399	1,590	192	69	9	596
Vermont	11,665	8,111	2,422	523	206	273
Subdistrict IB Total	292,672	166,744	50,807	27,808	62,963	19,990
Delaware	11,314	6,063	260	422	317	75
District of Columbia	456	141	2,010	319	-	-
Maryland	34,145	16,156	3,726	1,997	2,457	836
New Jersey	23,960	12,395	11,068	7,468	25,937	9,967
New York	116,381	74,133	21,813	11,297	27,526	5,253
Pennsylvania	106,415	57,854	11,929	6,303	6,726	3,859
Subdistrict IC Total	309,643	150,894	43,363	19,504	21,454	12,021
Florida	16,002	6,463	14,971	5,247	3,911	1,745
Georgia	7,440	4,665	3,059	2,682	2,226	837
North Carolina	126,513	59,129	7,407	3,284	5,025	3,771
South Carolina	49,795	23,091	2,965	515	4,468	3,299
Virginia	95,404	48,710	11,771	5,851	3,307	1,343
West Virginia	14,488	8,836	3,191	1,925	2,517	1,026
PAD District II Total	154,844	84,558	35,892	22,350	20,089	14,130
Illinois	8,718	4,251	2,651	1,076	2,501	1,350
Indiana	22,345	11,690	1,668	1,467	2,295	1,598
Iowa	1,738	1,013	242	1,586	133	385
Kansas	750	469	688	262	293	81
Kentucky	24,487	13,496	6,875	3,951	6,990	5,146
Michigan	16,455	9,127	2,367	755	2,206	892
Minnesota	11,324	1,280	171	190	41	24
Missouri	2,881	1,209	519	354	261	131
Nebraska	344	178	122	963	22	344
North Dakota	415	209	22	12	5	2
Ohio	36,693	26,233	10,088	7,941	3,973	2,270
Oklahoma	812	425	3,700	525	357	505
South Dakota	359	172	12	4	1	-
Tennessee	25,858	13,587	6,502	2,902	795	1,235
Wisconsin	1,665	1,219	266	362	216	168
PAD District III Total	9,422	4,754	19,984	3,335	9,761	8,071
Alabama	3,412	1,595	609	462	289	375
Arkansas	1,214	831	80	60	459	503
Louisiana	1,355	542	1,472	886	1,995	1,325
Mississippi	950	504	204	254	453	166
New Mexico	424	176	600	633	1,831	1,458
Texas	2,067	1,107	17,020	1,039	4,734	4,243
PAD District IV Total	2,154	1,449	6,867	695	356	291
Colorado	1,743	941	6,593	486	214	67
Idaho	99	218	17	48	8	88
Montana	42	47	4	5	-	-
Utah	223	191	172	199	38	52
Wyoming	47	53	81	36	95	84
PAD District V Total	9,088	6,825	29,722	1,986	3,253	2,237
Alaska	31	111	34	5	4	4
Arizona	18	11	107	102	1,881	668
California	4,538	3,713	1,737	783	904	992
Hawaii	0	0	10	9	5	4
Nevada	605	352	199	149	132	170
Oregon	1,608	561	304	339	102	104
Washington	2,288	2,077	27,332	600	225	294

See footnotes at end of table.

Table 6. Sales of Kerosene by End Use, 1989 and 1990—Continued
(Thousand Gallons)

Destination	Farm		All Other		Total	
	1989	1990	1989	1990	1989	1990
U.S. Total	30,081	16,691	64,598	13,804	1,291,568	652,008
PAD District I Total	16,361	8,243	49,553	8,305	961,472	487,380
Subdistrict IA Total	2,146	1,197	8,001	1,466	124,802	76,534
Connecticut	10	14	6,137	527	28,176	13,216
Maine	1,144	751	530	208	39,732	27,598
Massachusetts	89	24	768	419	16,461	12,935
New Hampshire	54	13	457	252	22,581	11,170
Rhode Island	1	0	36	11	2,638	2,266
Vermont	848	394	72	49	15,213	9,350
Subdistrict IB Total	8,711	3,748	36,555	4,373	451,707	222,662
Delaware	16	64	35	35	11,943	6,659
District of Columbia	-	-	-	-	2,465	461
Maryland	1,743	491	189	77	42,261	19,559
New Jersey	7	23	3,584	769	64,557	30,623
New York	4,791	2,369	30,988	2,829	201,500	95,881
Pennsylvania	2,153	800	1,758	663	128,982	69,480
Subdistrict IC Total	5,504	3,299	4,998	2,465	384,963	188,184
Florida	73	101	842	266	35,799	13,823
Georgia	55	16	409	124	13,189	8,326
North Carolina	1,787	1,442	898	640	141,630	68,267
South Carolina	1,238	251	1,428	506	59,894	27,662
Virginia	1,500	1,081	1,077	721	113,059	57,705
West Virginia	852	407	345	208	21,392	12,402
PAD District II Total	10,724	5,153	5,842	2,102	227,389	128,292
Illinois	536	436	999	187	15,405	7,298
Indiana	830	558	169	131	27,307	15,443
Iowa	552	340	313	84	2,978	3,409
Kansas	490	300	124	37	2,345	1,148
Kentucky	871	539	388	688	39,611	23,820
Michigan	295	468	379	88	21,703	11,330
Minnesota	1,998	260	58	21	13,592	1,775
Missouri	381	124	742	65	4,784	1,882
Nebraska	417	246	11	6	915	1,738
North Dakota	15	6	11	19	468	249
Ohio	3,235	1,246	2,151	157	56,140	37,848
Oklahoma	93	108	60	39	5,022	1,602
South Dakota	198	124	33	15	602	316
Tennessee	404	179	330	505	33,890	18,407
Wisconsin	407	218	73	59	2,627	2,026
PAD District III Total	1,552	1,676	8,233	2,827	48,952	20,663
Alabama	27	10	412	257	4,748	2,699
Arkansas	135	98	66	98	1,954	1,590
Louisiana	352	77	1,884	561	7,057	3,391
Mississippi	439	1,217	673	87	2,719	2,228
New Mexico	41	21	64	82	2,960	2,369
Texas	558	253	5,135	1,743	29,514	8,385
PAD District IV Total	781	1,045	360	98	10,517	3,578
Colorado	622	642	329	53	9,501	2,109
Idaho	22	12	5	16	151	382
Montana	91	284	4	4	142	339
Utah	23	99	10	22	466	564
Wyoming	22	8	12	3	257	184
PAD District V Total	664	574	610	474	43,337	12,096
Alaska	-	-	12	0	81	120
Arizona	17	13	63	40	2,086	834
California	501	493	392	121	8,072	6,102
Hawaii	0	1	-	3	16	17
Nevada	43	20	116	91	1,095	782
Oregon	53	24	17	53	2,083	1,082
Washington	50	22	9	166	29,903	3,160

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989 and 1990.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989 and 1990, (DOE/EIA-0340(89)/1 - (90)/1).

Table 7. Sales for Residential Use: Distillate Fuel Oil and Kerosene, 1990
(Thousand Gallons)

Destination	Distillate Fuel Oil			Kerosene
	No. 1	No. 2	Total	
U.S. Total	259,154	7,018,211	7,277,365	473,409
PAD District I Total	39,051	5,769,002	5,808,053	375,823
Subdistrict IA Total	15,804	2,127,849	2,143,653	58,185
Connecticut	3,776	584,584	588,360	8,218
Maine	8,207	251,242	259,448	23,673
Massachusetts	814	889,342	890,156	6,834
New Hampshire	1,578	173,243	174,821	9,804
Rhode Island	568	130,944	131,512	1,590
Vermont	862	98,494	99,356	8,111
Subdistrict IB Total	15,061	3,096,804	3,111,865	166,744
Delaware	-	49,794	49,794	6,063
District of Columbia	-	7,694	7,694	141
Maryland	222	220,370	220,592	16,156
New Jersey	254	591,791	592,045	12,395
New York	1,987	1,364,028	1,366,014	74,133
Pennsylvania	12,598	863,127	875,725	57,854
Subdistrict IC Total	8,186	544,349	552,535	150,894
Florida	609	11,418	12,026	6,463
Georgia	57	12,805	12,862	4,665
North Carolina	4,321	178,794	183,115	59,129
South Carolina	1,275	50,710	51,984	23,091
Virginia	1,193	261,816	263,009	48,710
West Virginia	731	28,808	29,538	8,836
PAD District II Total	163,631	989,322	1,152,954	84,558
Illinois	6,509	53,907	60,416	4,251
Indiana	18,045	68,520	86,565	11,690
Iowa	7,522	32,590	40,112	1,013
Kansas	412	806	1,218	469
Kentucky	2,223	30,212	32,435	13,496
Michigan	28,173	181,650	209,824	9,127
Minnesota	34,213	128,024	162,238	1,280
Missouri	3,678	14,180	17,858	1,209
Nebraska	3,156	5,343	8,499	178
North Dakota	8,067	34,459	42,526	209
Ohio	17,933	187,489	205,422	26,233
Oklahoma	-	9	9	425
South Dakota	11,616	28,939	40,555	172
Tennessee	542	11,377	11,919	13,587
Wisconsin	21,541	211,818	233,359	1,219
PAD District III Total	128	1,381	1,509	4,754
Alabama	19	732	751	1,595
Arkansas	1	13	14	83
Louisiana	-	273	273	542
Mississippi	17	23	40	504
New Mexico	19	335	354	176
Texas	72	5	77	1,107
PAD District IV Total	13,091	30,989	44,080	1,449
Colorado	538	653	1,192	941
Idaho	5,725	17,472	23,197	218
Montana	6,299	6,330	12,629	47
Utah	317	5,686	6,003	191
Wyoming	212	847	1,058	53
PAD District V Total	43,253	227,516	270,769	6,825
Alaska	26,494	40,989	67,483	111
Arizona	130	280	410	11
California	1,182	7,555	8,737	3,713
Hawaii	-	13	13	0
Nevada	575	8,657	9,232	352
Oregon	6,603	62,376	68,979	561
Washington	8,269	107,646	115,915	2,077

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DCE/EIA-0340(90)/1).

Table 8. Sales for Commercial Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1990
(Thousand Gallons)

Destination	Distillate Fuel Oil					Total Distillate	Residual Fuel Oil	Kerosene
	No. 1 Distillate	No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total	No. 4 Fuel			
U.S. Total	136,818	1,881,898	1,512,674	3,498,640	441,167	3,986,624	1,522,125	87,672
PAD District I Total	40,004	1,560,430	634,236	2,194,666	420,378	2,655,048	1,295,211	59,306
Subdistrict IA Total	14,653	480,630	108,126	588,756	80,416	683,825	368,291	11,995
Connecticut	4,235	109,709	21,573	131,281	15,329	150,845	44,141	2,158
Maine	2,460	68,629	8,052	76,681	7,784	86,925	84,986	2,848
Massachusetts	6,435	219,182	50,282	269,464	45,210	321,109	177,907	5,350
New Hampshire	860	42,058	12,848	54,906	5,543	61,309	25,763	1,046
Rhode Island	580	24,395	5,894	30,289	3,776	34,645	23,753	69
Vermont	83	16,657	9,478	26,135	2,774	28,992	4,742	523
Subdistrict IB Total	20,340	863,248	259,743	1,122,991	319,660	1,462,992	819,357	27,808
Delaware	316	9,069	4,920	13,989	3,090	17,396	7,078	422
District of Columbia	8	14,166	2,466	16,632	9,178	25,817	8,685	319
Maryland	714	76,286	29,564	105,850	1,312	107,876	21,803	1,997
New Jersey	4,244	230,876	53,781	284,657	67,200	356,100	58,074	7,468
New York	10,068	356,321	90,273	436,594	221,389	668,051	692,131	11,297
Pennsylvania	4,990	176,530	88,741	265,270	17,492	287,752	31,586	6,303
Subdistrict IC Total	5,011	216,552	266,367	482,919	20,301	508,232	117,563	19,504
Florida	1,308	45,507	120,158	165,664	6	166,978	94,079	5,247
Georgia	114	10,994	36,650	47,644	17,665	65,424	2,704	2,682
North Carolina	2,777	61,158	35,049	96,207	799	99,784	8,865	3,284
South Carolina	56	14,480	16,667	31,147	37	31,240	683	515
Virginia	233	71,319	48,727	120,046	1,734	122,014	8,652	5,851
West Virginia	522	13,095	9,115	22,210	60	22,792	2,581	1,925
PAD District II Total	53,956	223,036	369,603	592,640	1,471	648,066	45,022	22,360
Illinois	9,243	27,388	41,196	68,584	127	77,954	8,125	1,076
Indiana	7,229	23,135	23,539	46,674	7	53,910	2,463	1,467
Iowa	1,542	8,701	14,702	23,403	-	24,944	1,202	1,586
Kansas	2,168	2,425	9,654	12,079	-	14,247	1,058	262
Kentucky	2,899	15,760	14,309	30,068	72	33,039	12	3,951
Michigan	10,524	27,415	48,315	75,730	865	87,119	2,837	755
Minnesota	5,537	22,024	19,580	41,604	161	47,303	10,306	190
Missouri	3,393	8,726	32,344	41,070	-	44,463	2,369	354
Nebraska	966	3,058	8,424	11,482	-	12,448	795	983
North Dakota	649	3,227	3,721	6,948	-	7,597	891	112
Ohio	1,481	36,204	45,397	81,601	113	83,195	873	7,941
Oklahoma	1,998	5,413	19,674	25,127	-	27,126	3,202	525
South Dakota	1,770	3,841	4,867	8,708	-	10,477	973	4
Tennessee	1,101	5,794	25,116	30,910	-	32,012	1,301	2,902
Wisconsin	3,456	29,886	58,764	88,650	126	92,232	8,612	962
PAD District III Total	592	17,466	191,196	208,663	28	209,284	28,484	3,335
Alabama	16	2,565	29,449	32,014	-	32,031	24,089	462
Arkansas	13	650	12,269	12,919	-	12,932	-	60
Louisiana	102	1,773	30,243	32,017	-	32,119	1,573	886
Mississippi	18	1,208	16,095	17,303	15	17,336	-	254
New Mexico	202	188	18,068	18,256	-	18,459	-	633
Texas	242	1,102	85,071	96,153	13	96,408	2,822	1,039
PAD District IV Total	8,348	6,240	50,536	56,776	871	65,995	4,115	695
Colorado	2,162	894	16,090	16,984	17	19,163	-	406
Idaho	2,499	2,833	8,842	11,675	737	14,911	739	48
Montana	1,275	1,213	4,076	5,289	117	6,681	434	5
Utah	1,325	783	13,672	14,455	-	15,780	2,916	199
Wyoming	1,086	517	7,856	8,373	-	9,459	25	36
PAD District V Total	33,917	74,726	281,170	355,895	18,418	408,231	149,292	1,986
Alaska	10,345	17,125	17,997	35,122	-	45,468	-	5
Arizona	2,345	745	16,595	17,340	71	19,755	-	102
California	6,418	11,043	152,711	163,754	7,243	177,415	35,101	783
Hawaii	4,920	1,091	13,606	14,691	-	19,611	100,745	9
Nevada	399	3,813	9,278	13,091	-	13,490	85	149
Oregon	1,474	24,409	20,550	44,958	5,245	51,677	11,267	339
Washington	8,017	16,499	50,440	66,939	5,859	80,815	2,094	600

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Table 9. Sales for Industrial Use and for Oil Company Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1990
(Thousand Gallons)

Destination	Industrial Use								Oil Company Use	
	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel	Total Distillate	Residual Fuel Oil	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
		No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total						
U.S. Total	68,474	682,217	1,715,660	2,397,876	126,963	2,593,312	2,255,759	60,432	751,450	318,298
PAD District I Total	7,172	370,054	433,931	803,985	91,908	903,065	1,568,987	35,703	41,335	108,896
Subdistrict IA Total	679	108,125	30,729	138,854	26,632	166,165	393,157	3,691	3,630	455
Connecticut	23	17,633	4,465	22,097	8,153	30,273	55,893	2,299	255	304
Maine	141	14,519	3,390	17,909	2,552	20,602	190,499	162	2,273	-
Massachusetts	458	60,477	11,489	71,966	10,743	83,167	103,427	308	739	150
New Hampshire	1	7,078	2,829	9,907	1,944	11,852	20,767	54	66	-
Rhode Island	-	3,293	3,820	7,114	1,422	8,536	18,004	596	276	-
Vermont	57	5,124	4,736	9,860	1,818	11,735	4,568	273	21	-
Subdistrict IB Total	2,083	147,440	147,538	294,978	55,790	352,851	533,275	19,990	31,603	103,183
Delaware	2	3,091	5,844	8,935	866	9,803	22,626	75	355	6,649
District of Columbia	-	19	-	19	17	36	29	-	-	-
Maryland	432	14,313	14,820	29,133	1,781	31,346	46,065	836	1,101	2,605
New Jersey	33	34,976	16,346	51,322	19,624	70,980	138,258	9,967	3,044	5,819
New York	168	35,412	15,393	50,805	15,571	66,543	184,236	5,253	11,021	2,084
Pennsylvania	1,448	59,628	95,135	154,764	17,931	174,143	142,060	3,859	16,082	86,026
Subdistrict IC Total	4,410	114,490	255,664	370,154	9,486	384,049	642,555	12,021	6,102	5,258
Florida	0	3,097	38,876	41,973	1,095	43,068	127,935	1,745	1,411	105
Georgia	277	10,893	44,182	55,075	1,771	57,124	78,262	837	249	1,368
North Carolina	266	52,811	22,991	75,802	1,714	77,782	201,815	3,771	110	1,898
South Carolina	42	14,041	16,347	30,388	714	31,144	74,984	3,299	824	127
Virginia	394	18,275	50,179	68,454	4,192	73,040	111,721	1,343	826	1,762
West Virginia	3,430	15,372	83,089	98,461	-	101,892	47,838	1,026	2,682	-
PAD District II Total	28,412	206,529	520,933	727,462	6,705	762,579	365,784	14,130	72,948	129,026
Illinois	3,167	15,083	65,184	80,267	8	83,442	47,303	1,350	974	20,914
Indiana	5,020	12,651	76,641	89,292	91	94,403	76,305	1,598	1,180	65,719
Iowa	1,183	8,320	7,694	16,014	10	17,207	3,732	385	28	-
Kansas	774	3,382	7,158	10,540	-	11,314	6,568	81	10,802	627
Kentucky	1,887	53,560	131,544	185,104	141	187,132	13,851	5,146	807	7,501
Michigan	2,067	15,003	31,221	46,225	1,935	50,226	48,579	892	2,127	7,665
Minnesota	7,301	25,446	7,920	33,366	295	40,963	16,133	24	604	11,719
Missouri	2,124	6,092	24,520	30,613	403	33,140	20,652	131	353	-
Nebraska	262	1,819	3,482	5,301	-	5,563	9,385	344	46	-
North Dakota	1,063	5,257	12,509	17,765	-	18,829	3,887	2	6,644	8,029
Ohio	1,742	36,936	82,343	119,279	1,819	122,840	56,196	2,270	2,448	3,208
Oklahoma	303	4,389	20,605	24,994	-	25,297	19,265	505	46,091	-
South Dakota	435	2,102	3,524	5,627	-	6,062	1,420	-	25	-
Tennessee	173	6,288	36,222	42,510	2,002	44,685	10,448	1,235	756	266
Wisconsin	910	10,201	10,365	20,566	-	21,475	32,060	168	61	3,378
PAD District III Total	2,793	36,094	262,121	298,215	2,827	303,835	162,887	8,071	550,440	1,157
Alabama	1,871	4,445	80,420	84,866	1,315	88,052	17,679	375	13,692	-
Arkansas	13	1,816	16,614	18,429	114	18,556	8,504	503	1,810	-
Louisiana	-	680	20,006	20,686	884	21,570	44,939	1,325	260,388	34
Mississippi	448	8,187	11,576	19,763	506	20,718	37,655	166	6,948	-
New Mexico	439	-	23,164	23,164	-	23,602	4,590	1,458	12,486	-
Texas	22	20,966	110,341	131,307	8	131,337	49,521	4,243	255,116	1,123
PAD District IV Total	21,210	27,262	149,873	177,136	-	198,346	5,831	291	20,914	15,205
Colorado	2,709	19,882	15,144	35,026	-	37,736	498	67	2,615	-
Idaho	2,725	4,337	18,323	22,660	-	25,386	1,100	88	-	-
Montana	6,259	1,207	41,734	42,940	-	49,200	403	-	1,360	7,815
Utah	2,582	1,711	32,699	34,410	-	36,992	3,719	52	2,350	6,046
Wyoming	6,933	126	41,974	42,099	-	49,033	112	84	14,589	1,343
PAD District V Total	8,887	42,277	348,802	391,078	25,523	425,488	152,270	2,237	65,812	64,014
Alaska	2,676	2,480	2,034	4,513	273	7,463	4,620	4	38,875	-
Arizona	4	541	56,562	57,103	-	57,107	720	668	379	-
California	633	8,419	148,283	156,702	24,436	181,771	53,957	992	21,076	19,149
Hawaii	14	520	5,280	5,800	-	5,814	5,446	4	2,021	35,239
Nevada	3,424	1,085	96,011	97,097	84	100,605	306	170	322	-
Oregon	501	11,101	17,949	29,051	35	29,587	17,711	104	440	-
Washington	1,635	18,130	22,682	40,812	695	43,141	69,509	294	2,699	9,627

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Table 10. Sales for Farm Use: Distillate Fuel Oil and Kerosene; Sales for Electric Utility Use: Distillate Fuel Oil and Residual Fuel Oil, 1990
(Thousand Gallons)

Destination	Farm				Electric	
	Diesel	Other Distillate	Total Distillate	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	3,248,804	154,596	3,403,400	16,691	763,709	8,679,851
PAD District I Total	403,218	64,472	467,690	8,243	409,709	7,256,983
Subdistrict IA Total	12,868	9,101	21,969	1,197	47,260	1,857,800
Connecticut	1,032	756	1,788	14	3,202	548,738
Maine	3,641	1,601	5,242	751	643	159,901
Massachusetts	2,098	3,212	5,310	24	38,007	958,893
New Hampshire	987	1,189	2,176	13	1,649	179,234
Rhode Island	599	353	952	0	3,378	11,035
Vermont	4,511	1,990	6,501	394	380	-
Subdistrict IB Total	109,458	51,595	161,052	3,748	180,315	3,471,615
Delaware	6,683	758	7,441	64	4,300	97,380
District of Columbia	-	-	-	-	45,465	-
Maryland	22,119	1,806	23,925	491	30,290	297,623
New Jersey	13,113	7,169	20,282	23	8,032	259,210
New York	31,856	21,177	53,033	2,369	37,143	2,522,590
Pennsylvania	35,687	20,684	56,371	800	55,085	294,812
Subdistrict IC Total	280,892	3,777	284,669	3,299	182,134	1,927,568
Florida	61,173	87	61,260	101	92,531	1,820,847
Georgia	102,201	750	102,951	16	9,817	-
North Carolina	38,790	724	39,514	1,442	15,847	-
South Carolina	32,057	530	32,587	251	8,220	-
Virginia	39,412	856	40,268	1,081	40,401	106,721
West Virginia	7,259	829	8,089	407	15,317	-
PAD District II Total	1,618,596	81,147	1,699,742	5,153	162,609	142,789
Illinois	205,312	9,274	214,586	436	18,130	63,160
Indiana	88,467	8,315	96,782	558	19,223	-
Iowa	166,903	11,352	178,255	340	4,241	-
Kansas	157,288	2,891	160,178	300	5,492	2,636
Kentucky	48,780	934	49,714	539	14,475	-
Michigan	64,426	9,261	73,687	468	27,384	55,459
Minnesota	146,626	7,716	154,343	260	4,607	-
Missouri	84,288	1,771	86,059	124	9,235	10,711
Nebraska	186,600	2,178	188,698	246	2,082	-
North Dakota	97,510	3,254	100,764	6	2,284	299
Ohio	92,600	3,937	96,538	1,246	26,286	7,374
Oklahoma	50,665	5	50,671	108	3,317	3,149
South Dakota	85,415	4,294	89,709	124	317	-
Tennessee	50,225	201	50,426	179	11,169	-
Wisconsin	93,491	15,842	109,333	218	14,367	-
PAD District III Total	544,768	607	545,375	1,676	71,272	67,715
Alabama	51,432	358	51,790	10	9,523	-
Arkansas	59,120	29	59,150	98	10,230	615
Louisiana	70,595	160	70,755	77	8,216	8,147
Mississippi	118,643	8	118,651	1,217	3,790	49,252
New Mexico	10,917	-	10,917	21	4,700	1,057
Texas	234,061	52	234,112	253	34,812	8,643
PAD District IV Total	196,497	2,177	198,674	1,045	12,359	3,496
Colorado	46,344	547	46,891	642	1,024	-
Idaho	73,703	136	73,839	12	13	700
Montana	54,977	881	55,857	284	1,974	-
Utah	7,937	257	8,194	99	3,775	2,798
Wyoming	13,537	356	13,893	3	4,573	-
PAD District V Total	485,726	6,193	491,919	574	107,760	1,208,867
Alaska	20	5	25	-	18,106	-
Arizona	22,897	1,612	24,509	13	3,683	2,744
California	330,957	12	330,968	493	5,993	690,098
Hawaii	10,520	2,547	13,067	1	72,936	505,140
Nevada	5,474	126	5,599	20	4,039	10,865
Oregon	44,365	329	44,694	24	369	-
Washington	71,494	1,562	73,056	22	2,635	-

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

**Table 11. Sales for Transportation Use: Distillate Fuel Oil and Residual Fuel Oil,
1990**
(Thousand Gallons)

Destination	Railroad Use	Vessel Bunkering		On-Highway Diesel	Total Transportation Use	
	Distillate Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil	Distillate Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	3,104,630	2,064,842	6,326,322	21,360,477	26,529,949	6,326,322
PAD District I Total	488,027	517,875	1,276,853	6,840,031	7,845,933	1,276,853
Subdistrict IA Total	28,233	70,509	55,994	762,371	861,113	55,994
Connecticut	6,140	2,593	935	198,547	207,280	935
Maine	4,803	14,590	2,610	168,243	187,636	2,610
Massachusetts	13,230	45,791	52,448	261,683	320,704	52,448
New Hampshire	60	899	-	51,811	52,770	-
Rhode Island	780	6,232	-	40,645	47,657	-
Vermont	3,219	404	-	41,442	45,066	-
Subdistrict IB Total	127,338	171,571	629,734	2,615,308	2,914,216	629,734
Delaware	1,530	3,751	34,870	52,637	57,918	34,870
District of Columbia	6,756	18	-	22,551	29,325	-
Maryland	35,573	10,748	52,844	291,462	337,784	52,844
New Jersey	29,342	107,710	278,952	420,466	557,519	278,952
New York	11,872	9,693	43,416	907,848	929,414	43,416
Pennsylvania	42,263	39,650	219,652	920,344	1,002,258	219,652
Subdistrict IC Total	332,456	275,796	591,125	3,462,352	4,070,603	591,125
Florida	87,689	111,537	387,635	881,047	1,080,273	387,635
Georgia	67,333	26,264	47,436	854,952	948,549	47,436
North Carolina	43,522	11,814	16,371	620,268	675,605	16,371
South Carolina	28,583	5,616	19,802	417,636	451,835	19,802
Virginia	81,557	38,992	119,881	540,468	661,017	119,881
West Virginia	23,771	81,572	-	147,981	253,324	-
PAD District II Total	1,358,140	445,654	14,566	7,315,808	9,119,603	14,566
Illinois	141,136	45,877	2,034	1,141,593	1,328,606	2,034
Indiana	224,544	9,275	7,745	801,335	1,035,154	7,745
Iowa	26,760	5,540	-	372,390	404,690	-
Kansas	192,893	-	-	310,213	503,106	-
Kentucky	118,577	99,857	-	488,180	706,614	-
Michigan	39,027	3,653	3,653	527,744	570,425	3,653
Minnesota	61,002	4,261	-	330,563	395,827	-
Missouri	25,864	77,037	836	587,288	690,189	836
Nebraska	107,399	-	-	218,344	325,743	-
North Dakota	37,211	-	-	90,699	127,910	-
Ohio	115,248	12,409	203	923,811	1,051,468	203
Oklahoma	104,426	125	-	380,222	484,773	-
South Dakota	2,401	-	-	99,095	101,496	-
Tennessee	67,077	184,636	29	605,871	857,584	29
Wisconsin	94,575	2,984	65	438,467	536,019	65
PAD District III Total	565,436	623,662	2,064,869	3,024,116	4,487,214	2,064,369
Alabama	60,839	69,903	109,893	564,351	695,093	109,893
Arkansas	35,012	1,633	-	383,712	420,357	-
Louisiana	59,720	346,687	864,659	434,629	841,036	864,659
Mississippi	17,839	47,004	60,954	310,708	375,551	60,954
New Mexico	39,802	-	-	220,011	259,813	-
Texas	352,224	158,435	1,028,863	1,384,705	1,895,364	1,028,863
PAD District IV Total	293,932	175	-	821,171	1,115,278	-
Colorado	74,822	-	-	217,149	291,971	-
Idaho	20,320	175	-	126,723	147,218	-
Montana	48,710	-	-	123,867	172,577	-
Utah	35,804	-	-	178,793	214,597	-
Wyoming	114,276	-	-	174,639	288,915	-
PAD District V Total	399,094	477,476	2,970,534	3,085,351	3,961,922	2,970,534
Alaska	5,322	129,866	5,495	82,538	217,726	5,495
Arizona	9,935	-	-	331,183	341,118	-
California	225,930	153,578	2,156,177	1,819,718	2,199,226	2,156,177
Hawaii	18	91,058	100,294	24,968	116,044	100,294
Nevada	5,345	-	-	133,250	138,595	-
Oregon	82,463	37,419	147,140	334,950	454,832	147,140
Washington	70,082	65,556	561,428	358,744	494,382	561,428

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

**Table 12. Sales for Military, Off-Highway, and All Other Uses:
Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1990
(Thousand Gallons)**

Destination	Military				Off-Highway Diesel Distillate Fuel Oil			All Other		
	Diesel	Other Distillate	Total Distillate	Residual Fuel Oil	Construction	Other	Total	Distillate Fuel Oil	Residual Fuel Oil ^b	Kerosene
U.S. Total	647,970	61,262	709,232	101,921	1,620,896	187,751	1,808,646	2,898	29,152	13,804
PAD District I Total	103,419	42,445	145,864	85,244	498,358	45,082	543,439	817	137	8,305
Subdistrict IA Total	6,234	6,345	12,579	12,300	63,154	4,369	67,523	116	71	1,466
Connecticut	84	648	732	2,426	19,985	108	20,093	-	71	527
Maine	4,107	2,160	6,267	3,249	6,559	1,785	8,344	-	-	208
Massachusetts	1,056	1,418	2,473	1,884	22,707	121	22,829	-	-	419
New Hampshire	211	401	612	3,250	7,220	1,097	8,317	-	-	252
Rhode Island	688	1,674	2,362	1,363	2,306	10	2,316	0	-	11
Vermont	89	43	132	127	4,376	1,248	5,624	116	-	49
Subdistrict IB Total	13,144	24,205	37,350	44,174	210,951	5,792	216,743	167	16	4,373
Delaware	147	86	233	926	4,755	4	4,759	-	-	35
District of Columbia	50	5,457	5,507	119	68	-	68	-	-	-
Maryland	3,348	9,513	12,861	19,747	32,160	589	32,749	115	-	77
New Jersey	1,683	3,414	5,097	10,340	54,918	438	55,356	-	-	769
New York	5,782	5,242	11,024	10,588	42,483	3,402	45,885	26	16	2,829
Pennsylvania	2,135	492	2,627	2,454	76,567	1,358	77,926	26	-	663
Subdistrict IC Total	84,041	11,895	95,936	28,769	224,253	34,920	259,173	533	50	2,465
Florida	9,569	353	9,921	8,006	70,814	3,214	74,028	-	50	266
Georgia	6,222	1,668	7,890	4,542	36,180	12,973	49,153	-	-	124
North Carolina	4,082	5,251	9,333	4,034	28,895	3,777	32,672	187	-	640
South Carolina	2,515	1,211	3,726	185	23,438	12,415	35,852	0	-	506
Virginia	61,466	3,412	64,878	12,004	41,646	1,040	42,685	298	-	721
West Virginia	187	-	187	-	23,280	1,503	24,783	49	-	208
PAD District II Total	34,132	8,783	42,915	684	465,148	24,123	489,271	1,643	309	2,102
Illinois	1,277	407	1,683	-	83,778	590	84,368	102	68	187
Indiana	4,512	444	4,956	-	35,382	1,630	37,013	-	-	131
Iowa	565	54	618	7	11,239	1,390	12,629	217	-	84
Kansas	2,406	34	2,439	-	12,823	1,188	14,011	660	6	37
Kentucky	4,949	1,296	6,245	-	24,725	6	24,731	-	-	688
Michigan	1,486	449	1,935	-	44,022	1,437	45,459	-	66	88
Minnesota	1,460	23	1,483	-	37,725	3,713	41,438	266	-	21
Missouri	2,246	3,092	5,337	507	30,061	1,648	31,708	171	-	65
Nebraska	340	10	350	-	14,114	42	14,156	-	-	6
North Dakota	1,617	45	1,662	-	4,394	76	4,470	10	170	19
Ohio	9,839	288	10,127	-	35,982	1,062	37,043	-	-	157
Oklahoma	841	937	1,779	-	31,886	1,691	33,577	19	-	39
South Dakota	398	60	458	6	6,937	210	7,147	68	-	15
Tennessee	1,404	1,591	2,995	165	47,469	3,931	51,399	41	-	505
Wisconsin	793	55	848	-	44,612	5,510	50,122	89	-	59
PAD District III Total	199,181	733	199,914	4,086	259,717	33,962	293,679	186	-	2,827
Alabama	2,576	531	3,107	4,086	35,320	9,631	44,952	3	-	257
Arkansas	965	-	965	-	20,935	4,561	25,496	45	-	98
Louisiana	26,384	3	26,387	-	41,343	2,082	43,425	109	-	561
Mississippi	11,022	-	11,022	-	15,422	5,136	20,558	-	-	87
New Mexico	817	80	897	-	17,135	278	17,413	-	-	82
Texas	157,417	119	157,536	-	129,563	12,273	141,836	29	-	1,743
PAD District IV Total	9,618	3,901	13,518	1,899	90,195	14,404	104,599	226	98	98
Colorado	6,076	302	6,378	-	29,471	791	30,263	45	-	53
Idaho	300	1,685	1,985	-	12,070	8,060	20,130	67	12	16
Montana	219	247	466	-	8,575	5,363	13,938	55	-	4
Utah	2,841	1,663	4,504	1,899	18,162	186	18,348	-	-	22
Wyoming	181	4	185	-	21,916	4	21,920	59	86	3
PAD District V Total	301,621	5,400	307,021	10,008	307,477	70,180	377,657	27	28,607	474
Alaska	43,613	503	44,116	-	9,435	5,458	14,893	-	-	0
Arizona	2,839	-	2,839	-	35,834	2,150	37,984	-	-	40
California	210,098	197	210,295	-	186,009	20,241	206,249	-	-	121
Hawaii	35,541	-	35,541	5,385	10,485	23	10,509	-	28,542	3
Nevada	3,513	635	4,148	-	19,332	78	19,410	-	-	91
Oregon	1,293	48	1,341	44	15,194	19,994	35,188	27	65	53
Washington	4,724	4,017	8,741	4,580	31,188	22,237	53,425	-	-	166

^b Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Home Heating Oil Will Be Changing Its Color

The 1990 Clean Air Act amendments represent a major revision of the existing clean air legislation. In the area of mobile sources of pollution the amendments establish two programs, reformulated gasoline and oxygenated fuels. The Environmental Protection Agency (EPA) has also issued regulations effective October 1, 1993 which limit the sulfur level of on-highway diesel fuel. These various clean fuel requirements will have far reaching impacts on the petroleum industry.

The reformulated gasoline program was established to reduce the emissions of ozone and various other toxic air pollutants from automobiles and light duty trucks. The program will be phased in as the only gasoline sold in the nine³ cities with the highest ozone level beginning January 1, 1995.

The oxygenated fuel program was established to reduce carbon monoxide emissions. The program requires a minimum oxygen fuel content of 2.7 percent for the gasoline sold in the carbon monoxide nonattainment areas during the winter months.

The fuel quality regulations for on-highway diesel fuel require refiners to reduce the sulfur content from current levels of approximately 0.25 percent to 0.05 percent. The regulations also require that on-highway diesel fuel have a minimum cetane index specification of 40. The cetane rating of a fuel is a measure of engine performance using the fuel and is taken directly from engine tests. The cetane index is an estimate of the cetane rating calculated from fuel properties.

The EPA was concerned that refiners would increase the aromatics in low sulfur diesel fuel through the blending of feedstocks in order to increase the fuel's performance specifications. Higher aromatics in diesel fuel could produce higher emissions and would undermine the purpose of reducing the sulfur level of the diesel fuel. A minimum cetane index level was set as a means of preventing the aromatics level of diesel fuels from increasing in the future. Both the sulfur and cetane requirements must be implemented throughout the distribution system by October 1, 1993.

One enforcement provision of this regulation requires that all off-highway diesel fuel (including home heating oil) be visibly dyed in order to distinguish it from on-highway diesel. The EPA will require that a blue dye be added to off-highway diesel fuel as a means to verify visually if diesel fuel does not meet the sulfur percentage and cetane index standard for on-highway use. When the blue dye is added to the diesel fuel, the fuel will probably appear green because of the yellowish color of diesel fuel.

Any imported diesel fuel not meeting the specifications for on-highway use will also have to be dyed with the blue dye. The dye should be added to the fuel prior to U.S. Customs inspection to meet these regulations. If the imported diesel fuel does not contain the blue dye, it will be considered on-highway fuel and subject to custom duty taxes, and sulfur level and cetane requirements for on-highway diesel fuel.

Most refiners are developing investment strategies to meet the new on-highway diesel requirements. These investment plans include targeting specific refineries for investments in desulfurization facilities, making operating adjustments to segregate low sulfur diesel production from other distillate production, or installing additional desulfurization facilities for every refinery. Refiners will have to invest in sufficient desulfurization capacity in order to avoid regional shortages of on-highway diesel. Prices may rise in the short term to reflect the cost of investing in desulfurization facilities. Higher on-highway diesel prices would encourage refiners to make additional investments in desulfurization capacity.

The desulfurization requirements may also lead to an abundance of home heating oil as well as off-highway diesel. Refiners who do not invest in new facilities may concentrate on sales of home heating oil or off-highway diesel until they are able to build additional desulfurization capacity. Factors such as regional demand, existing distribution facilities, marketing strategy, availability of capital and economies of scale will be important considerations in a refiner's decision to invest in desulfurization facilities.

³Areas requiring reformulated gasoline under the Clean Air Act: Los Angeles-Anaheim-Riverside, California CMSA; Houston-Galveston-Brazoria, Texas CMSA; New York, New York-New Jersey-Connecticut CMSA; Baltimore, Maryland; Chicago, Illinois-Indiana-Wisconsin CMSA; San Diego, California; Philadelphia, Pennsylvania-New Jersey-Delaware CMSA; Milwaukee-Racine, Wisconsin CMSA; Hartford, Connecticut CMSA.

Adjusted Sales of Fuel Oil and Kerosene in 1990

The following tables contain estimates of distillate fuel oil and kerosene which have been adjusted at the PAD district level to equal published EIA volume estimates of products supplied in the U.S. marketplace. The residual fuel oil sales estimates have been adjusted at the national level. The products supplied estimates can be found in the 1986 through 1990 *Petroleum Supply Annual*. For certain sales categories, data obtained from alternate sources are used instead of the adjusted numbers. See "Technical Note 3" for further explanation of data adjustments.

Please Note: the adjustment procedure for residual fuel oil has been changed this year. In previous years, estimates of vessel bunkering volumes were obtained from the Bureau of the Census report, "United States For-

eign Trade, Bunker Fuels." This Census report has now been discontinued. In order to minimize disruption to the residual fuel oil adjusted sales data series, the Census data have been removed from prior years' estimates and the adjustment to equal products supplied estimates is now performed at the national level.

Total domestic adjusted sales of fuel oil and kerosene declined dramatically from 1989 to 1990, 70.7 billion gallons to 65.8 billion gallons. Adjusted sales of distillate fuel oil dropped 4.3 percent and adjusted sales of residual fuel oil fell 10.3 percent. The adjusted sales estimates for kerosene declined 49.5 percent due to warm weather, high prices, and the reclassification of kerosene as kerosene-type jet fuel by a major producer.

The bulk of diesel fuel sales in the United States were made to the on-highway end-use sector.

**Table 13. Adjusted Sales of Distillate Fuel Oil by End Use in the United States:
1986-1990**
(Thousand Gallons)

End Use	Distillate Fuel Oil				
	1986	1987	1988	1989	1990
U.S. Total	44,677,080	45,629,346	47,985,420	48,393,450	46,305,126
Residential	7,294,815	7,426,412	7,662,046	7,501,098	6,022,902
Commercial	4,293,095	4,279,375	4,135,079	3,858,743	3,502,778
Industrial	2,684,102	2,917,624	2,617,639	2,565,293	2,452,322
Oil Company	749,992	881,729	872,133	845,217	968,764
Farm	3,380,046	3,241,968	3,420,671	3,196,928	3,293,792
Electric Utility	614,360	646,073	800,085	1,078,887	733,681
Railroad	3,099,616	3,147,661	3,259,250	3,264,229	3,210,111
Vessel Bunkering	2,034,215	2,223,258	2,310,367	2,356,444	2,197,004
On-Highway Diesel	17,926,508	18,172,934	20,038,691	21,131,692	21,360,477
Military	760,417	884,392	980,877	928,316	784,401
Off-Highway Diesel	1,699,252	1,732,106	1,821,819	1,637,497	1,776,352
All Other	140,661	75,815	66,763	29,106	2,541

Note: Totals may not equal sum of components due to independent rounding.

Note: Distillate fuel oil data in the Adjusted Sales tables (13-24) are adjusted at the PAD District level. See Technical Note 3 for further explanation.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1986-1990.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Railroad data for distillate fuel oil are based on Association of American Railroads' statistics for railroads of Class I and Amtrak Companies.

• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1986-1990, (DOE/EIA-0340(86)/1 - (90)/1).

Railroad locomotives are powered by diesel fuel.

**Table 14. Adjusted Sales of Residual Fuel Oil by End Use in the United States:
1986-1990**
(Thousand Gallons)

End Use	Residual Fuel Oil				
	1986 ^a	1987 ^a	1988 ^a	1989 ^a	1990 ^a
U.S. Total	21,744,114	19,383,168	21,179,550	21,002,814	18,837,882
Commercial	1,928,769	1,805,365	1,827,723	1,650,418	1,503,301
Industrial	3,898,672	3,195,873	3,071,772	2,453,976	2,227,855
Oil Company	776,600	643,308	520,507	344,751	314,358
Electric Utility	9,041,608	7,631,898	9,540,878	9,797,966	8,433,489
Vessel Bunkering	5,690,328	5,869,154	6,025,521	6,621,100	6,248,095
Military	180,918	191,045	E 137,287	105,255	81,992
All Other^b	226,649	46,111	55,832	29,312	28,791

^a To provide a continuous data series, the estimates for 1986 through 1989 have been revised since last year's publication. See the Introduction for further explanation and the Appendix for revised State-level data for 1985 through 1988.

^b Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

^E Estimated data. Annual estimate is based on eleven months of data.

Note: Totals may not equal sum of components due to independent rounding.

Note: Residual fuel oil data in the Adjusted Sales tables (13-24) are adjusted at the national level. See Technical Note 3 for further explanation.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1986-1990.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1986-1990, (DOE/EIA-0340(86)/1 - (90)/1).

**Table 15. Adjusted Sales of Kerosene by End Use in the United States:
1986-1990**
(Thousand Gallons)

End Use	Kerosene				
	1986	1987	1988	1989	1990
U.S. Total	1,506,162	1,449,504	1,478,316	1,291,668	652,008
Residential	641,742	671,350	770,042	618,322	439,870
Commercial	307,704	267,437	306,584	349,566	95,737
Industrial	173,859	160,057	188,117	171,124	76,687
Farm	47,948	34,761	45,990	36,907	21,934
All Other	334,908	315,900	167,583	115,750	17,780

Note: Totals may not equal sum of components due to independent rounding.

Note: Kerosene data in the Adjusted Sales tables (13-24) are adjusted at the PAD District level. See Technical Note 3 for further explanation.

Sources: • Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1986-1990, (DOE/EIA-0340(86)/1 - (90)/1).

**Table 16. Adjusted Sales of Distillate Fuel Oil by End Use,
1989 and 1990**
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1989	1990	1989	1990	1989	1990
U.S. Total	7,501,098	6,022,902	3,858,743	3,502,778	2,565,293	2,452,322
PAD District I Total	6,003,771	4,725,874	2,483,447	2,160,350	847,186	734,802
Subdistrict IA Total	2,103,316	1,744,239	650,297	556,412	181,767	135,204
Connecticut	597,477	478,734	143,928	122,739	39,079	24,633
Maine	238,445	211,107	68,062	70,729	27,390	16,763
Massachusetts	862,166	724,299	325,448	261,278	84,689	67,671
New Hampshire	180,907	142,248	49,823	49,885	12,902	9,644
Rhode Island	133,478	107,008	32,707	28,190	9,234	6,945
Vermont	90,843	80,843	30,329	23,590	8,474	9,549
Subdistrict IB Total	3,332,803	2,532,050	1,418,405	1,190,401	320,283	287,106
Delaware	55,486	40,516	12,513	14,154	8,934	7,976
District of Columbia	6,115	6,261	22,668	21,007	107	29
Maryland	215,803	179,490	84,163	87,776	28,770	25,505
New Jersey	668,788	481,733	342,936	289,750	70,026	57,755
New York	1,460,843	1,111,493	649,743	543,577	62,048	54,145
Pennsylvania	925,768	712,557	306,381	234,137	150,398	141,696
Subdistrict IC Total	567,651	449,585	414,744	413,536	345,136	312,492
Florida	15,238	9,786	116,672	135,866	39,961	35,044
Georgia	11,208	10,465	40,934	53,234	43,679	46,480
North Carolina	196,372	148,996	98,741	81,192	81,108	63,289
South Carolina	53,820	42,298	38,861	25,419	24,867	25,341
Virginia	263,958	214,004	98,760	99,280	74,019	59,431
West Virginia	27,056	24,035	20,776	18,545	81,502	82,907
PAD District II Total	1,165,361	959,344	575,845	539,239	659,460	634,523
Illinois	66,377	50,271	59,185	64,864	75,664	69,430
Indiana	97,159	72,029	48,503	44,857	84,897	78,551
Iowa	44,732	33,376	20,565	20,756	13,458	14,317
Kansas	1,345	1,013	14,002	11,855	10,401	9,414
Kentucky	31,287	26,989	27,261	27,491	139,924	155,708
Michigan	200,352	174,589	87,247	72,490	50,080	41,792
Minnesota	188,737	134,994	43,396	39,359	36,800	34,084
Missouri	19,892	14,859	38,886	36,996	33,430	27,575
Nebraska	10,456	7,072	9,561	10,358	5,046	4,629
North Dakota	38,339	35,385	7,804	6,321	17,825	15,667
Ohio	192,031	170,927	70,839	69,224	111,409	102,212
Oklahoma	17	7	26,779	22,570	22,281	21,049
South Dakota	37,803	33,745	9,253	8,718	5,144	5,044
Tennessee	10,270	9,917	27,900	26,636	31,685	37,181
Wisconsin	226,563	194,172	84,664	76,744	21,416	17,869
PAD District III Total	3,050	2,147	326,243	297,752	432,914	432,272
Alabama	1,442	1,068	51,571	45,571	81,243	125,273
Arkansas	32	20	18,475	18,399	22,918	26,400
Louisiana	323	389	35,497	45,696	24,230	30,688
Mississippi	273	57	35,915	24,664	23,570	29,476
New Mexico	441	503	21,249	26,261	44,243	33,580
Texas	539	110	163,537	137,161	236,711	186,856
PAD District IV Total	49,637	42,161	75,564	63,123	197,695	189,712
Colorado	1,753	1,140	22,623	18,329	35,260	36,093
Idaho	23,431	22,188	14,624	14,262	30,087	24,281
Montana	15,377	12,079	8,558	6,390	45,880	47,058
Utah	7,680	5,742	19,280	15,093	32,114	35,382
Wyoming	1,396	1,012	10,479	9,048	54,353	46,899
PAD District V Total	279,280	293,377	397,644	442,315	428,039	461,013
Alaska	63,744	73,117	34,630	49,264	35,482	8,086
Arizona	283	444	15,715	21,405	59,550	61,875
California	10,108	9,466	193,766	192,228	168,271	196,947
Hawaii	17	15	20,800	21,249	4,090	6,299
Nevada	10,587	10,003	15,896	14,616	94,996	109,005
Oregon	79,305	74,738	45,131	55,992	27,587	32,057
Washington	115,235	125,593	71,707	87,562	38,062	46,743

See footnotes at end of table.

**Table 16. Adjusted Sales of Distillate Fuel Oil by End Use,
1989 and 1990--Continued**
(Thousand Gallons)

Destination	Oil Company		Farm		Electric Utility	
	1989	1990	1989	1990	1989	1990
U.S. Total	845,217	968,764	3,196,928	3,293,792	1,078,887	733,681
PAD District I Total	38,334	33,633	398,098	380,548	627,397	393,599
Subdistrict IA Total	1,832	2,954	18,981	17,875	39,534	45,402
Connecticut	286	208	2,520	1,454	5,386	3,076
Maine	403	1,850	4,540	4,265	2,915	618
Massachusetts	763	602	2,910	4,321	24,448	36,513
New Hampshire	107	53	1,961	1,771	3,306	1,584
Rhode Island	249	225	199	774	1,961	3,246
Vermont	23	17	6,851	5,290	1,517	365
Subdistrict IB Total	31,843	25,714	144,281	131,045	401,417	173,225
Delaware	269	289	5,541	6,055	14,312	4,131
District of Columbia	-	-	-	-	71,970	43,677
Maryland	968	896	23,920	19,468	63,558	29,099
New Jersey	4,236	2,477	19,113	16,503	54,808	7,716
New York	10,284	8,968	48,870	43,152	114,115	35,683
Pennsylvania	16,087	13,086	46,838	45,868	82,654	52,919
Subdistrict IC Total	4,658	4,965	234,835	231,628	186,446	174,972
Florida	979	1,148	47,533	49,846	79,629	88,893
Georgia	280	203	82,966	83,769	16,155	9,431
North Carolina	81	90	39,584	32,151	22,419	15,224
South Carolina	299	671	27,394	26,515	11,880	7,896
Virginia	1,088	672	32,398	32,765	33,892	38,813
West Virginia	1,931	2,182	4,960	6,581	22,472	14,715
PAD District II Total	60,550	60,698	1,393,420	1,414,313	188,359	156,215
Illinois	6,078	810	170,578	178,552	24,651	17,417
Indiana	930	982	84,188	80,530	29,115	18,467
Iowa	71	23	147,584	148,321	4,832	4,074
Kansas	8,024	8,988	132,404	133,280	7,468	5,276
Kentucky	683	672	38,602	41,366	17,107	13,906
Michigan	1,353	1,770	59,830	61,313	37,769	26,307
Minnesota	524	503	129,423	128,425	6,384	4,425
Missouri	315	294	79,324	71,607	9,620	8,872
Nebraska	22	38	145,637	157,011	3,902	2,000
North Dakota	4,421	5,528	89,892	83,843	4,302	2,194
Ohio	6,153	2,037	74,818	80,327	21,269	25,253
Oklahoma	30,983	38,351	41,123	42,162	542	3,187
South Dakota	12	21	74,497	74,645	862	305
Tennessee	551	629	39,597	41,958	3,447	10,729
Wisconsin	430	51	85,923	90,973	17,090	13,802
PAD District III Total	675,879	783,121	740,018	775,915	114,885	68,470
Alabama	9,997	19,480	60,320	73,683	10,486	9,148
Arkansas	4,913	2,575	92,106	84,153	11,073	9,828
Louisiana	328,594	370,459	91,754	100,664	20,371	7,893
Mississippi	18,459	9,886	133,238	168,806	5,072	3,641
New Mexico	11,533	17,764	16,925	15,532	6,351	4,516
Texas	302,383	362,958	345,675	333,076	61,532	33,443
PAD District IV Total	20,914	20,004	196,150	190,026	18,933	11,873
Colorado	1,316	2,501	54,657	44,850	5,161	1,945
Idaho	8	-	68,266	70,625	27	13
Montana	1,093	1,301	53,859	53,426	2,552	1,896
Utah	4,459	2,247	9,656	7,837	4,293	3,627
Wyoming	14,038	13,954	9,713	13,289	6,899	4,393
PAD District V Total	49,540	71,307	469,243	532,990	129,313	103,523
Alaska	27,330	42,121	257	27	21,953	17,394
Arizona	67	411	31,647	26,555	4,382	3,538
California	19,399	22,836	302,124	358,602	19,719	5,757
Hawaii	923	2,190	11,132	14,158	74,240	70,068
Nevada	321	349	5,187	6,067	2,639	3,881
Oregon	279	476	49,245	48,426	5,363	354
Washington	1,222	2,924	69,650	79,156	1,017	2,531

See footnotes at end of table.

**Table 16. Adjusted Sales of Distillate Fuel Oil by End Use,
1989 and 1990—Continued**
(Thousand Gallons)

Destination	Railroad		Vessel Bunkering		On-Highway	
	1989	1990	1989	1990	1989	1990
U.S. Total	3,264,229	3,210,111	2,356,444	2,197,004	21,131,692	21,360,477
PAD District I Total	555,279	504,608	453,313	421,382	6,752,738	6,840,031
Subdistrict IA Total	35,317	29,193	59,061	57,371	827,956	762,371
Connecticut	5,413	6,349	1,956	2,110	257,361	198,547
Maine	6,424	4,967	12,263	11,872	139,908	168,243
Massachusetts	19,733	13,680	38,242	37,259	271,944	261,683
New Hampshire	36	62	337	732	59,561	51,811
Rhode Island	534	807	5,896	5,071	52,932	40,645
Vermont	3,177	3,329	367	329	46,250	41,442
Subdistrict IB Total	179,628	131,664	166,937	139,603	2,571,926	2,615,308
Delaware	1,038	1,582	3,259	3,052	74,089	52,637
District of Columbia	13,287	6,985	22	14	23,064	22,551
Maryland	41,025	36,782	8,709	8,746	351,150	291,462
New Jersey	62,696	30,339	119,169	87,641	453,482	420,466
New York	17,584	12,276	9,925	7,887	754,276	907,848
Pennsylvania	43,997	43,699	25,854	32,263	915,865	920,344
Subdistrict IC Total	340,335	343,751	227,315	224,408	3,352,856	3,462,352
Florida	85,557	90,668	89,628	90,755	899,369	881,047
Georgia	65,938	69,621	34,882	21,371	838,847	854,952
North Carolina	37,167	45,001	8,638	9,613	614,485	620,268
South Carolina	30,946	29,554	5,381	4,570	302,614	417,636
Virginia	94,408	84,328	25,289	31,726	537,569	540,468
West Virginia	26,318	24,579	63,497	66,373	159,972	147,981
PAD District II Total	1,335,990	1,404,284	380,790	370,818	7,253,324	7,315,808
Illinois	139,446	145,932	32,932	38,173	839,968	1,141,593
Indiana	227,166	232,173	9,233	7,717	784,441	801,335
Iowa	33,941	27,669	2,403	4,610	349,044	372,390
Kansas	169,928	199,446	-	-	303,893	310,213
Kentucky	116,502	122,606	98,114	83,088	692,215	488,180
Michigan	42,684	40,353	4,558	3,040	528,906	527,744
Minnesota	39,444	63,075	2,674	3,546	331,625	330,563
Missouri	34,875	26,743	44,001	64,101	641,680	587,288
Nebraska	122,799	111,048	66	-	208,258	218,344
North Dakota	36,451	38,475	-	-	90,544	90,699
Ohio	123,607	119,163	8,442	10,325	960,195	923,811
Oklahoma	78,303	107,974	266	104	394,174	380,222
South Dakota	2,374	2,483	-	-	91,221	99,095
Tennessee	62,179	69,356	175,079	153,631	587,396	605,871
Wisconsin	106,289	97,788	3,022	2,483	449,764	438,460
PAD District III Total	640,845	584,647	998,618	887,295	3,221,237	3,298,116
Alabama	67,231	62,906	139,715	99,452	544,882	564,351
Arkansas	35,200	36,202	666	2,323	395,236	383,712
Louisiana	78,996	61,749	460,005	493,239	385,621	434,629
Mississippi	17,890	18,445	75,914	66,873	302,523	310,708
New Mexico	52,161	41,154	-	-	205,916	220,011
Texas	389,367	364,191	322,318	225,408	1,387,059	1,384,705
PAD District IV Total	312,449	303,919	134	167	734,904	821,171
Colorado	88,610	77,364	64	-	185,519	217,149
Idaho	19,728	21,010	71	167	117,246	126,723
Montana	59,283	50,365	-	-	119,503	123,867
Utah	34,842	37,020	-	-	125,184	178,793
Wyoming	109,985	118,158	-	-	187,452	174,639
PAD District V Total	419,666	412,654	523,588	517,342	3,169,489	3,085,351
Alaska	4,963	5,503	132,087	140,709	96,446	82,538
Arizona	8,348	10,272	-	-	314,671	331,183
California	218,393	233,606	198,830	166,401	1,913,647	1,819,718
Hawaii	17	18	82,832	98,661	23,717	24,968
Nevada	23,511	5,527	-	-	131,055	133,250
Oregon	86,388	85,265	34,274	40,543	311,843	334,950
Washington	78,045	72,463	75,565	71,029	378,110	358,744

See footnotes at end of table.

**Table 16. Adjusted Sales of Distillate Fuel Oil by End Use,
1989 and 1990—Continued**
(Thousand Gallons)

Destination	Military		Off-Highway		All Other		Total	
	1989	1990	1989	1990	1989	1990	1989	1990
U.S. Total	928,316	784,401	1,637,497	1,776,352	29,106	2,541	48,393,450	46,305,126
PAD District I Total	141,367	118,688	461,637	442,184	11,307	665	18,773,874	16,756,362
Subdistrict IA Total	15,102	10,235	66,502	54,942	597	95	4,000,264	3,416,293
Connecticut	611	596	18,713	16,350	480	-	1,073,210	854,795
Maine	2,984	5,099	12,836	6,789	39	-	516,210	502,301
Massachusetts	1,988	2,013	18,219	18,575	-	-	1,650,549	1,427,892
New Hampshire	1,542	498	7,674	6,767	-	-	318,155	265,055
Rhode Island	7,778	1,922	3,344	1,885	79	0	248,361	196,718
Vermont	229	107	5,717	4,576	-	95	193,778	169,532
Subdistrict IB Total	55,629	30,390	180,995	176,358	3,338	136	8,807,488	7,433,002
Delaware	85	190	4,202	3,872	-	-	179,727	134,454
District of Columbia	2,996	4,481	31	55	-	-	140,261	105,061
Maryland	22,336	10,465	32,165	26,647	2,569	94	875,137	716,430
New Jersey	9,124	4,148	52,452	45,042	48	-	1,856,878	1,443,569
New York	10,410	8,970	40,298	37,335	3	21	3,178,401	2,771,355
Pennsylvania	10,677	2,137	51,847	63,406	718	21	2,577,083	2,262,132
Subdistrict IC Total	70,636	78,061	214,139	210,883	7,371	434	5,966,123	5,907,067
Florida	20,305	8,073	35,627	60,235	1,307	-	1,461,804	1,451,361
Georgia	9,153	6,420	38,179	39,995	1,610	-	1,183,830	1,195,940
North Carolina	7,794	7,594	26,655	26,584	2,234	152	1,135,279	1,050,155
South Carolina	2,557	3,032	26,601	29,172	908	0	526,128	612,105
Virginia	30,664	52,790	36,720	34,732	1,299	242	1,230,064	1,189,252
West Virginia	163	152	20,358	20,165	13	40	429,017	408,254
PAD District II Total	44,570	35,709	340,350	407,110	13,925	1,367	13,411,944	13,299,426
Illinois	4,430	1,401	37,553	70,201	161	85	1,457,021	1,778,727
Indiana	6,569	4,124	29,465	30,797	2,819	-	1,404,487	1,371,561
Iowa	272	514	9,595	10,508	1,876	180	628,372	636,739
Kansas	855	2,030	12,352	11,658	1,601	549	662,271	693,723
Kentucky	5,419	5,196	21,811	20,578	19	-	1,188,945	985,780
Michigan	3,146	1,610	45,397	37,825	1,744	-	1,063,066	988,833
Minnesota	2,030	1,234	26,163	34,479	1,818	221	809,017	774,908
Missouri	4,994	4,441	21,499	26,383	1,165	142	929,681	869,301
Nebraska	1,063	291	17,083	11,779	-	-	523,895	522,570
North Dakota	1,344	1,383	4,509	3,719	194	8	295,626	283,223
Ohio	8,597	8,426	27,963	30,823	335	-	1,605,659	1,542,528
Oklahoma	1,491	1,480	22,047	27,939	227	16	618,234	645,062
South Dakota	512	381	5,642	5,947	540	57	227,860	230,439
Tennessee	2,785	2,492	26,619	42,768	650	34	968,157	1,001,204
Wisconsin	1,064	705	32,652	41,705	776	74	1,029,655	974,827
PAD District III Total	442,179	284,421	376,969	417,823	3,425	264	7,976,262	7,832,244
Alabama	6,335	4,420	63,870	63,954	1,999	4	1,039,092	1,069,310
Arkansas	2,069	1,373	32,128	36,274	63	64	614,878	601,321
Louisiana	83,075	37,541	54,974	61,781	275	155	1,563,715	1,644,883
Mississippi	73,439	15,681	33,576	29,248	162	-	720,030	677,487
New Mexico	912	1,276	21,484	24,773	48	-	381,263	385,371
Texas	276,348	224,130	170,936	201,793	879	41	3,657,284	3,453,872
PAD District IV Total	13,748	12,930	93,611	100,046	450	216	1,714,188	1,755,348
Colorado	8,353	6,100	27,355	28,945	46	43	430,717	434,460
Idaho	738	1,899	13,872	19,254	26	64	288,124	300,485
Montana	351	446	15,989	13,332	25	52	322,470	310,213
Utah	4,120	4,308	18,551	17,550	-	-	260,179	307,598
Wyoming	186	177	17,844	20,966	353	57	412,697	402,591
PAD District V Total	286,451	332,655	364,928	409,189	-	29	6,517,182	6,661,746
Alaska	34,075	47,800	13,980	16,136	-	-	464,948	482,695
Arizona	2,253	3,076	37,978	41,155	-	-	474,894	499,914
California	205,471	227,853	193,260	223,469	-	-	3,442,990	3,456,884
Hawaii	31,149	38,509	5,428	11,386	-	-	254,345	287,521
Nevada	4,401	4,494	24,066	21,031	-	-	312,658	308,222
Oregon	733	1,450	44,577	38,126	-	29	684,725	712,409
Washington	8,370	9,471	45,640	57,885	-	-	882,623	914,101

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989 and 1990.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Railroad data for distillate fuel oil are based on Association of American Railroads' statistics for railroads of Class I and Amtrak Companies.

• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989 and 1990, (DOE/EIA-0340(89)/1 - (90)/1).

**Table 17. Adjusted Sales of Residual Fuel Oil by End Use,
1989 and 1990 (Thousand Gallons)**

Destination	Commercial		Industrial		Oil Company		Electric Utility	
	1989	1990	1989	1990	1989	1990	1989	1990
U.S. Total	1,650,418	1,503,301	2,453,976	2,227,855	344,751	314,358	9,797,966	8,433,489
PAD District I Total	1,351,058	1,279,195	1,672,079	1,549,585	144,156	107,549	8,601,468	7,051,006
Subdistrict IA Total	359,017	353,860	475,964	388,295	887	449	2,310,284	1,805,070
Connecticut	66,649	40,632	72,088	55,201	887	301	749,254	533,163
Maine	82,398	83,935	204,489	188,143	-	-	219,634	155,362
Massachusetts	166,116	175,707	147,149	102,148	-	148	1,103,079	931,676
New Hampshire	20,573	25,444	26,457	20,511	-	-	215,811	174,147
Rhode Island	19,686	23,459	21,390	17,781	-	-	22,506	10,721
Vermont	3,595	4,683	4,390	4,511	-	-	-	-
Subdistrict IB Total	871,247	809,225	551,445	526,680	138,862	101,907	4,330,729	3,373,079
Delaware	10,064	6,990	24,875	22,346	16,978	6,566	173,374	94,616
District of Columbia	5,571	8,578	12	29	-	-	-	-
Maryland	55,648	21,533	39,721	45,495	2,679	2,572	404,651	289,175
New Jersey	77,273	57,356	170,520	136,549	6,092	5,747	525,982	251,853
New York	683,400	683,573	185,421	181,958	2,480	2,058	2,784,305	2,450,991
Pennsylvania	39,292	31,195	130,896	140,303	110,634	84,962	442,417	286,444
Subdistrict IC Total	120,795	116,109	644,670	634,609	4,406	5,193	1,960,456	1,872,857
Florida	85,434	92,916	123,955	126,353	88	103	1,726,877	1,769,165
Georgia	11,142	2,670	72,567	77,294	914	1,351	618	-
North Carolina	9,748	8,755	196,533	199,319	1,962	1,875	-	-
South Carolina	1,608	674	85,641	74,056	457	125	-	-
Virginia	9,070	8,545	124,315	110,340	985	1,740	232,962	103,692
West Virginia	3,793	2,549	41,660	47,246	-	-	-	-
PAD District II Total	65,652	44,464	414,629	361,252	130,109	127,427	197,418	138,736
Illinois	9,831	8,025	49,340	46,717	46,544	20,655	71,844	61,367
Indiana	15,175	2,433	75,142	75,360	40,702	64,905	-	-
Iowa	1,421	1,187	6,468	3,685	-	-	-	-
Kansas	428	1,045	11,120	6,487	2,034	619	-	2,561
Kentucky	11	12	13,954	13,679	6,415	7,408	-	-
Michigan	3,881	2,802	68,667	47,977	7,667	7,570	87,400	53,885
Minnesota	11,549	10,179	24,105	15,933	9,903	11,574	7	-
Missouri	1,499	2,340	18,083	20,396	-	-	14,460	10,407
Nebraska	1,867	786	11,662	9,269	-	-	2,531	-
North Dakota	1,180	880	4,102	3,839	7,253	7,930	243	291
Ohio	766	863	70,968	55,500	5,568	3,168	20,933	7,165
Oklahoma	1,957	3,163	14,591	19,027	-	-	-	3,060
South Dakota	970	961	1,875	1,403	-	-	-	-
Tennessee	2,268	1,284	16,997	10,318	204	263	-	-
Wisconsin	12,850	8,505	27,557	31,663	3,819	3,336	-	-
PAD District III Total	45,855	28,132	160,131	160,873	662	1,143	75,420	65,793
Alabama	21,566	23,791	14,842	17,460	-	-	-	-
Arkansas	-	-	10,224	8,399	-	-	5,726	597
Louisiana	10,909	1,554	61,230	44,383	22	34	8,524	7,916
Mississippi	563	-	46,287	37,189	-	-	51,407	47,854
New Mexico	-	-	6,361	4,533	-	-	1,775	1,027
Texas	12,817	2,787	21,186	48,909	640	1,109	7,988	8,398
PAD District IV Total	2,557	4,064	7,085	5,759	12,985	15,016	39	3,399
Colorado	256	-	623	492	-	-	3	-
Idaho	1,137	730	821	1,086	-	-	-	680
Montana	555	428	59	398	7,035	7,718	-	-
Utah	586	2,880	5,199	3,673	5,073	5,971	-	2,719
Wyoming	23	25	383	110	876	1,326	36	-
PAD District V Total	185,297	147,446	200,053	150,387	56,839	63,223	923,621	1,174,555
Alaska	-	-	-	4,563	-	-	-	-
Arizona	-	-	249	711	-	-	3,393	2,666
California	32,327	34,667	98,460	53,290	18,234	18,912	372,937	670,511
Hawaii	138,498	99,499	5,192	5,379	28,331	34,803	522,447	490,802
Nevada	75	84	2,479	302	276	-	24,844	10,577
Oregon	11,362	11,128	15,575	17,492	116	-	-	-
Washington	3,035	2,068	78,097	68,649	9,882	9,508	-	-

See footnotes at end of table.

**Table 17. Adjusted Sales of Residual Fuel Oil by End Use,
1989 and 1990—Continued (Thousand Gallons)**

Destination	Vessel Bunkering		Military		All Other ^b		Total	
	1989	1990	1989	1990	1989	1990	1989	1990
U.S. Total	6,621,100	6,248,095	105,255	81,992	29,312	28,791	21,002,814	18,837,882
PAD District I Total	1,272,125	1,261,064	90,853	68,575	191	135	13,131,930	11,317,110
Subdistrict IA Total	45,558	55,301	25,823	9,895	-	70	3,217,532	2,612,941
Connecticut	314	924	3,097	1,952	-	70	892,289	632,244
Maine	5,275	2,577	4,085	2,614	-	-	515,881	432,632
Massachusetts	39,352	51,800	14,388	1,516	-	-	1,470,083	1,262,995
New Hampshire	-	-	1,049	2,615	-	-	263,890	222,716
Rhode Island	618	-	2,850	1,096	-	-	67,049	53,058
Vermont	-	-	354	102	-	-	8,340	9,296
Subdistrict IB Total	698,609	621,947	40,918	35,537	-	16	6,631,810	5,468,391
Delaware	38,264	34,439	-	745	-	-	263,555	165,703
District of Columbia	-	-	2,115	96	-	-	7,698	8,703
Maryland	85,369	52,191	23,688	15,886	-	-	611,755	426,853
New Jersey	384,702	275,502	2,892	8,318	-	-	1,167,462	735,325
New York	15,739	42,879	8,815	8,518	-	16	3,680,160	3,369,993
Pennsylvania	174,535	216,936	3,408	1,974	-	-	901,181	761,815
Subdistrict IC Total	527,957	583,816	24,112	23,144	191	49	3,282,587	3,235,778
Florida	342,592	382,842	7,460	6,440	-	49	2,286,405	2,377,869
Georgia	27,089	46,849	1,947	3,654	-	-	114,277	131,818
North Carolina	25,428	16,168	4,214	3,245	191	-	238,077	229,362
South Carolina	23,821	19,557	6,343	149	-	-	117,869	94,562
Virginia	109,027	118,399	4,149	9,657	-	-	480,507	352,372
West Virginia	-	-	-	-	-	-	45,453	49,795
PAD District II Total	17,225	14,385	4,291	550	427	306	829,752	687,120
Illinois	2,459	2,009	-	-	-	67	180,018	138,840
Indiana	9,122	7,649	-	-	-	-	140,140	150,347
Iowa	-	-	10	5	-	-	7,900	4,878
Kansas	-	-	-	-	-	6	13,582	10,718
Kentucky	-	-	-	-	-	-	20,380	21,099
Michigan	4,969	3,608	-	-	57	65	172,640	115,907
Minnesota	67	-	-	-	119	-	45,750	37,685
Missouri	-	826	3,709	408	-	-	37,750	34,376
Nebraska	-	-	-	-	15	-	16,074	10,054
North Dakota	-	-	-	-	236	168	13,014	13,108
Ohio	415	201	-	-	-	-	98,650	66,895
Oklahoma	-	-	-	-	-	-	16,548	25,249
South Dakota	-	-	2	5	-	-	2,846	2,368
Tennessee	21	29	571	132	-	-	20,060	12,026
Wisconsin	172	64	-	-	-	-	44,398	43,569
PAD District III Total	2,334,438	2,038,844	1,229	3,287	-	-	2,617,734	2,298,072
Alabama	120,534	108,534	1,229	3,287	-	-	158,172	153,073
Arkansas	-	-	-	-	-	-	15,950	8,996
Louisiana	1,040,465	853,968	-	-	-	-	1,121,148	907,855
Mississippi	51,836	60,200	-	-	-	-	150,092	145,244
New Mexico	-	-	-	-	-	-	8,136	5,560
Texas	1,121,603	1,016,141	-	-	-	-	1,164,235	1,077,344
PAD District IV Total	-	-	-	1,528	207	97	22,890	29,862
Colorado	-	-	-	-	-	-	881	492
Idaho	-	-	-	-	-	12	1,959	2,508
Montana	-	-	-	-	181	-	7,830	8,545
Utah	-	-	-	1,528	-	-	10,866	16,771
Wyoming	-	-	-	-	26	85	1,354	1,547
PAD District V Total	2,997,312	2,933,802	0,882	8,051	28,487	28,254	4,400,508	4,505,718
Alaska	5,091	5,427	-	-	-	-	5,091	9,991
Arizona	-	-	-	-	-	-	3,642	3,377
California	2,115,093	2,129,514	-	-	-	-	2,637,052	2,906,894
Hawaii	93,260	99,054	3,647	4,332	28,427	28,189	819,802	762,059
Nevada	-	-	-	-	-	-	27,675	10,963
Oregon	204,643	145,321	-	35	60	64	231,773	174,041
Washington	579,224	554,485	5,235	3,684	-	-	675,472	638,395

^b Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989 and 1990.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989 and 1990, (DOE/EIA-0340(89)/1 - (90)/1).

Table 18. Adjusted Sales of Kerosene by End Use, 1989 and 1990
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1989	1990	1989	1990	1989	1990
U.S. Total	618,322	439,870	349,566	95,737	171,124	76,687
PAD District I Total	338,613	247,854	54,607	39,112	44,228	23,546
Subdistrict IA Total	44,404	38,373	8,608	7,910	2,993	2,435
Connecticut	5,878	5,420	2,972	1,423	1,910	1,516
Maine	16,487	15,583	1,925	1,878	178	107
Massachusetts	5,541	4,507	1,323	3,528	758	203
New Hampshire	9,627	6,466	1,112	690	41	35
Rhode Island	1,172	1,048	94	45	5	393
Vermont	5,698	5,349	1,183	345	101	180
Subdistrict IB Total	142,960	109,967	24,817	18,339	30,755	13,183
Delaware	5,527	3,999	127	278	155	50
District of Columbia	223	93	982	210	-	-
Maryland	16,679	10,655	1,820	1,317	1,200	551
New Jersey	11,704	8,175	5,406	4,925	12,669	6,573
New York	56,848	48,890	10,655	7,451	13,446	3,464
Pennsylvania	51,980	38,155	5,827	4,157	3,285	2,545
Subdistrict IC Total	151,249	99,515	21,181	12,863	10,480	7,928
Florida	7,816	4,263	7,313	3,460	1,910	1,151
Georgia	3,634	3,077	1,494	1,769	1,087	552
North Carolina	61,797	38,995	3,618	2,166	2,454	2,487
South Carolina	24,323	15,228	1,448	340	2,183	2,176
Virginia	46,601	32,124	5,750	3,858	1,615	886
West Virginia	7,077	5,827	1,559	1,269	1,230	677
PAD District II Total	167,570	156,212	38,842	41,289	21,740	26,104
Illinois	9,435	7,853	2,868	1,988	2,706	2,493
Indiana	24,181	21,597	1,805	2,710	2,484	2,951
Iowa	1,881	1,872	262	2,929	144	712
Kansas	812	866	745	485	317	150
Kentucky	26,500	24,932	7,440	7,299	7,564	9,507
Michigan	17,808	16,861	2,562	1,394	2,387	1,649
Minnesota	12,255	2,365	185	352	45	45
Missouri	3,118	2,234	561	653	282	242
Nebraska	372	328	132	1,780	24	635
North Dakota	449	387	24	23	5	3
Ohio	39,709	48,463	10,917	14,670	4,300	4,193
Oklahoma	878	785	4,004	970	386	933
South Dakota	388	319	13	6	1	-
Tennessee	27,983	25,100	7,037	5,361	860	2,281
Wisconsin	1,902	2,252	288	669	234	310
PAD District III Total	96,177	11,306	204,003	7,931	99,644	19,194
Alabama	34,829	3,793	6,220	1,100	2,949	892
Arkansas	12,395	1,976	812	143	4,684	1,197
Louisiana	13,829	1,289	15,021	2,108	20,369	3,152
Mississippi	9,695	1,198	2,084	604	4,625	396
New Mexico	4,331	418	6,121	1,505	18,693	3,467
Texas	21,098	2,634	173,744	2,471	48,325	10,091
PAD District IV Total	1,041	1,463	3,318	701	172	294
Colorado	842	950	3,186	410	104	68
Idaho	48	220	8	49	4	89
Montana	20	47	2	6	-	-
Utah	108	193	83	201	19	53
Wyoming	23	54	39	36	46	85
PAD District V Total	14,921	23,035	48,797	6,704	5,341	7,549
Alaska	51	374	55	16	7	13
Arizona	30	38	176	343	3,088	2,254
California	7,450	12,530	2,852	2,641	1,484	3,347
Hawaii	0	1	17	29	8	13
Nevada	994	1,186	327	503	217	575
Oregon	2,639	1,894	499	1,144	167	352
Washington	3,756	7,010	44,871	2,027	369	994

See footnotes at end of table.

Table 18. Adjusted Sales of Kerosene by End Use, 1989 and 1990—Continued
(Thousand Gallons)

Destination	Farm		All Other		Total	
	1989	1990	1989	1990	1989	1990
U.S. Total	36,907	21,934	115,750	17,780	1,291,668	652,008
PAD District I Total	7,992	5,436	24,205	5,477	469,644	321,426
Subdistrict IA Total	1,048	789	3,908	967	60,961	50,474
Connecticut	5	9	2,998	347	13,763	8,716
Maine	559	496	259	137	19,408	18,201
Massachusetts	43	16	375	276	8,041	8,531
New Hampshire	26	9	223	166	11,030	7,366
Rhode Island	0	0	18	7	1,288	1,494
Vermont	414	260	35	32	7,431	6,166
Subdistrict IB Total	4,255	2,471	17,856	2,884	220,643	146,845
Delaware	8	42	17	23	5,834	4,392
District of Columbia	-	-	-	-	1,204	304
Maryland	851	324	92	51	20,643	12,899
New Jersey	4	15	1,751	507	31,534	20,196
New York	2,340	1,562	15,137	1,866	98,425	63,233
Pennsylvania	1,052	528	859	437	63,003	45,822
Subdistrict IC Total	2,689	2,176	2,441	1,625	188,040	124,107
Florida	36	67	411	176	17,486	9,116
Georgia	27	11	200	82	6,442	5,491
North Carolina	873	951	439	422	69,181	45,022
South Carolina	605	165	697	333	29,256	18,243
Virginia	733	713	526	475	55,225	38,056
West Virginia	416	269	168	137	10,449	8,179
PAD District II Total	11,605	9,519	6,322	3,882	246,078	237,006
Illinois	580	805	1,082	345	16,671	13,483
Indiana	899	1,030	183	241	29,551	28,530
Iowa	598	629	338	155	3,223	6,298
Kansas	531	553	134	68	2,538	2,122
Kentucky	942	997	420	1,271	42,866	44,005
Michigan	320	865	411	163	23,487	20,931
Minnesota	2,162	480	63	39	14,710	3,280
Missouri	412	229	803	119	5,177	3,478
Nebraska	451	455	12	12	990	3,210
North Dakota	16	12	12	36	507	460
Ohio	3,501	2,303	2,328	290	60,754	69,919
Oklahoma	101	199	65	72	5,434	2,959
South Dakota	214	230	35	28	652	583
Tennessee	438	331	357	933	36,675	34,006
Wisconsin	441	402	79	110	2,843	3,743
PAD District III Total	15,844	3,986	84,048	6,722	499,716	49,140
Alabama	272	25	4,201	610	48,472	6,420
Arkansas	1,383	233	672	232	19,946	3,781
Louisiana	3,589	183	19,230	1,333	72,038	8,066
Mississippi	4,480	2,894	6,870	206	27,753	5,298
New Mexico	424	49	653	195	30,221	5,635
Texas	5,695	601	52,423	4,145	301,286	19,941
PAD District IV Total	377	1,055	174	99	5,082	3,612
Colorado	301	648	159	54	4,591	2,129
Idaho	11	12	2	16	73	385
Montana	4	286	2	4	69	343
Utah	11	100	5	22	225	570
Wyoming	11	8	6	3	124	186
PAD District V Total	1,089	1,937	1,001	1,598	71,148	40,824
Alaska	-	-	20	1	133	405
Arizona	27	44	104	133	3,424	2,814
California	823	1,665	644	409	13,253	20,594
Hawaii	0	4	-	9	25	56
Nevada	70	67	191	309	1,799	2,641
Oregon	88	82	27	178	3,420	3,650
Washington	81	73	15	560	49,093	10,664

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989 and 1990.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989 and 1990, (DOE/EIA-0340(89)/1 - (90)/1).

Table 19. Adjusted Sales for Residential Use: Distillate Fuel Oil and Kerosene, 1990
(Thousand Gallons)

Destination	Distillate Fuel Oil			Kerosene
	No. 1	No. 2	Total	
U.S. Total	227,495	5,795,407	6,022,902	439,870
PAD District I Total	31,775	4,694,099	4,725,874	247,854
Subdistrict IA Total	12,859	1,731,380	1,744,239	38,373
Connecticut	3,072	475,662	478,734	5,420
Maine	6,678	204,430	211,107	15,583
Massachusetts	662	723,636	724,299	4,507
New Hampshire	1,284	140,964	142,248	6,466
Rhode Island	463	106,546	107,008	1,048
Vermont	701	80,142	80,843	5,349
Subdistrict IB Total	12,255	2,519,795	2,532,050	109,967
Delaware	-	40,516	40,516	3,999
District of Columbia	-	6,261	6,261	93
Maryland	181	179,310	179,490	10,655
New Jersey	206	481,526	481,733	8,175
New York	1,617	1,109,877	1,111,493	48,890
Pennsylvania	10,251	702,306	712,557	38,155
Subdistrict IC Total	6,660	442,924	449,585	99,515
Florida	495	9,290	9,786	4,263
Georgia	47	10,419	10,465	3,077
North Carolina	3,516	145,480	148,996	38,995
South Carolina	1,037	41,261	42,298	15,228
Virginia	971	213,034	214,004	32,124
West Virginia	595	23,440	24,035	5,827
PAD District II Total	136,153	823,190	959,344	156,212
Illinois	5,416	44,855	50,271	7,853
Indiana	15,015	57,014	72,029	21,597
Iowa	6,259	27,117	33,376	1,872
Kansas	343	670	1,013	866
Kentucky	1,850	25,138	26,989	24,932
Michigan	23,442	151,147	174,589	16,861
Minnesota	28,468	106,526	134,994	2,365
Missouri	3,060	11,799	14,859	2,234
Nebraska	2,626	4,446	7,072	328
North Dakota	6,713	28,672	35,385	387
Ohio	14,921	156,005	170,927	48,463
Oklahoma	-	7	7	785
South Dakota	9,665	24,079	33,745	318
Tennessee	451	9,466	9,917	25,100
Wisconsin	17,924	176,248	194,172	2,252
PAD District III Total	182	1,965	2,147	11,306
Alabama	27	1,041	1,068	3,793
Arkansas	2	18	20	1,976
Louisiana	-	389	389	1,289
Mississippi	24	33	57	1,198
New Mexico	26	477	503	418
Texas	102	7	110	2,634
PAD District IV Total	12,521	29,640	42,161	1,463
Colorado	515	625	1,140	950
Idaho	5,476	16,712	22,188	220
Montana	6,025	6,055	12,079	47
Utah	303	5,438	5,742	193
Wyoming	203	810	1,012	54
PAD District V Total	46,865	246,512	293,377	23,035
Alaska	26,706	44,411	73,117	374
Arizona	141	303	444	38
California	1,281	8,186	9,466	12,530
Hawaii	-	15	15	1
Nevada	623	9,380	10,003	1,186
Oregon	7,154	67,584	74,738	1,894
Washington	8,959	116,633	125,593	7,010

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Table 20. Adjusted Sales for Commercial Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1990
(Thousand Gallons)

Destination	Distillate Fuel Oil						Residual Fuel Oil	Kerosene
	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel	Total Distillate		
		No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total				
U.S. Total	123,022	1,567,050	1,448,601	3,015,651	364,105	3,502,778	1,503,301	95,737
PAD District I Total	32,550	1,269,685	516,063	1,785,748	342,051	2,160,350	1,279,195	39,112
Subdistrict IA Total	11,923	391,077	87,980	479,057	65,433	556,412	353,860	7,910
Connecticut	3,446	89,268	17,553	106,821	12,473	122,739	40,632	1,422
Maine	2,002	55,842	6,552	62,393	6,334	70,729	83,935	1,878
Massachusetts	5,236	178,343	40,913	219,256	36,786	261,278	175,707	3,528
New Hampshire	700	34,222	10,454	44,675	4,510	49,885	25,444	690
Rhode Island	472	19,850	4,796	24,645	3,073	28,190	23,459	45
Vermont	68	13,553	7,712	21,266	2,257	23,590	4,683	345
Subdistrict IB Total	16,551	702,404	211,347	913,751	260,100	1,190,401	809,225	18,339
Delaware	257	7,380	4,003	11,383	2,514	14,154	6,990	278
District of Columbia	6	11,526	2,007	13,533	7,468	21,007	8,578	210
Maryland	581	62,072	24,055	86,127	1,068	87,776	21,533	1,317
New Jersey	3,453	187,858	43,760	231,618	54,679	289,750	57,356	4,925
New York	8,192	289,930	65,316	355,246	180,139	543,577	683,573	7,451
Pennsylvania	4,060	143,638	72,206	215,844	14,233	234,137	31,195	4,157
Subdistrict IC Total	4,077	176,204	216,736	392,940	16,519	413,536	116,109	12,863
Florida	1,064	37,028	97,770	134,797	5	135,866	92,916	3,460
Georgia	93	8,946	29,821	38,767	14,374	53,234	2,670	1,769
North Carolina	2,260	49,763	28,519	78,282	650	81,192	8,755	2,166
South Carolina	45	11,782	13,562	25,344	30	25,419	674	340
Virginia	190	58,030	39,648	97,679	1,411	99,280	8,545	3,858
West Virginia	425	10,655	7,417	18,072	48	18,545	2,549	1,269
PAD District II Total	44,895	185,583	307,537	493,120	1,224	539,239	44,464	41,289
Illinois	7,691	22,789	34,278	57,067	106	64,864	8,025	1,988
Indiana	6,015	19,250	19,586	38,836	6	44,857	2,433	2,710
Iowa	1,283	7,240	12,233	19,473	-	20,756	1,187	2,929
Kansas	1,804	2,018	8,033	10,051	-	11,855	1,045	485
Kentucky	2,412	13,113	11,906	25,019	60	27,491	12	7,299
Michigan	8,757	22,811	40,201	63,013	720	72,490	2,802	1,394
Minnesota	4,608	18,326	16,292	34,618	134	39,359	10,179	352
Missouri	2,823	7,260	26,913	34,173	-	36,996	2,340	653
Nebraska	804	2,544	7,010	9,554	-	10,358	786	1,780
North Dakota	540	2,685	3,096	5,781	-	6,321	880	23
Ohio	1,232	30,124	37,774	67,898	94	69,224	863	14,670
Oklahoma	1,663	4,537	16,370	20,908	-	22,570	3,163	970
South Dakota	1,472	3,196	4,050	7,246	-	8,718	961	6
Tennessee	916	4,821	20,899	25,720	-	26,636	1,284	5,361
Wisconsin	2,876	24,867	48,896	73,763	105	76,744	8,505	669
PAD District III Total	843	24,850	272,019	296,869	40	297,752	28,132	7,931
Alabama	23	3,650	41,898	45,547	-	45,571	23,791	1,100
Arkansas	18	925	17,456	18,381	-	18,399	-	143
Louisiana	145	2,523	43,028	45,551	-	45,696	1,554	2,108
Mississippi	25	1,718	22,899	24,617	22	24,664	-	604
New Mexico	288	267	25,706	25,974	-	26,261	-	1,505
Texas	344	15,766	121,032	136,799	19	137,161	2,787	2,471
PAD District IV Total	7,985	5,968	48,336	54,304	833	63,123	4,064	701
Colorado	2,068	855	15,389	16,245	16	18,329	-	410
Idaho	2,390	2,710	8,457	11,167	705	14,262	730	49
Montana	1,220	1,160	3,899	5,059	112	6,390	428	6
Utah	1,268	749	13,077	13,825	-	15,093	2,880	201
Wyoming	1,039	494	7,514	8,009	-	9,048	25	36
PAD District V Total	36,749	80,965	304,646	385,610	19,956	442,315	147,446	6,704
Alaska	11,209	18,555	19,500	38,055	-	49,264	-	16
Arizona	2,540	808	17,980	18,788	77	21,405	-	343
California	6,954	11,965	165,461	177,426	7,848	192,228	34,667	2,641
Hawaii	5,331	1,183	14,735	15,918	-	21,249	99,499	29
Nevada	432	4,131	10,053	14,184	-	14,616	84	503
Oregon	1,597	26,447	22,266	48,712	5,683	55,992	11,128	1,144
Washington	8,686	17,877	54,651	72,528	6,348	87,562	2,068	2,027

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Table 21. Adjusted Sales for Industrial and Oil Company Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1990
(Thousand Gallons)

Destination	Industrial Use								Oil Company Use	
	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel	Total Distillate	Residual Fuel Oil	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
		No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total						
U.S. Total	63,366	596,186	1,680,732	2,276,918	112,038	2,452,322	2,227,855	76,687	968,764	314,358
PAD District I Total	5,835	301,104	353,079	654,184	74,783	734,802	1,549,585	23,546	33,633	107,549
Subdistrict IA Total	553	87,979	25,003	112,982	21,670	135,204	388,295	2,435	2,954	449
Connecticut	19	14,347	3,633	17,980	6,634	24,633	55,201	1,516	208	30
Maine	115	11,814	2,758	14,572	2,076	16,763	188,143	107	1,850	-
Massachusetts	372	49,209	9,348	58,557	8,741	67,671	102,148	203	602	148
New Hampshire	1	5,759	2,302	8,061	1,582	9,644	20,511	35	53	-
Rhode Island	-	2,680	3,109	5,788	1,157	6,945	17,781	393	225	-
Vermont	46	4,169	3,853	8,023	1,480	9,549	4,511	180	17	-
Subdistrict IB Total	1,695	119,968	120,048	240,016	45,395	287,106	526,680	13,183	25,714	101,907
Delaware	2	2,515	4,755	7,270	704	7,976	22,346	50	289	6,566
District of Columbia	-	15	-	15	14	29	29	-	-	-
Maryland	351	11,646	12,059	23,705	1,449	25,505	45,495	551	896	2,572
New Jersey	27	28,459	13,300	41,760	15,968	57,755	136,549	6,573	2,477	5,747
New York	136	28,814	12,525	41,339	12,670	54,145	181,958	3,464	8,968	2,058
Pennsylvania	1,178	48,518	77,409	125,928	14,590	141,696	140,303	2,545	13,086	84,962
Subdistrict IC Total	3,588	93,158	208,028	301,185	7,718	312,492	634,609	7,928	4,965	5,193
Florida	0	2,520	31,633	34,153	891	35,044	126,353	1,151	1,148	103
Georgia	226	8,863	35,950	44,814	1,441	46,480	77,294	552	203	1,351
North Carolina	217	42,971	18,707	61,678	1,395	63,289	199,319	2,487	90	1,875
South Carolina	34	11,425	13,301	24,726	581	25,341	74,056	2,176	671	125
Virginia	320	14,870	40,829	55,699	3,411	59,431	110,340	886	672	1,740
West Virginia	2,791	12,508	67,608	80,116	-	82,907	47,246	677	2,182	-
PAD District II Total	23,641	171,848	433,455	605,303	5,579	634,523	361,252	26,104	60,698	127,427
Illinois	2,635	12,550	54,238	66,788	7	69,430	46,717	2,493	810	20,655
Indiana	4,177	10,526	63,771	74,298	76	78,551	75,360	2,951	982	64,905
Iowa	984	6,923	6,402	13,325	8	14,317	3,685	712	23	-
Kansas	644	2,814	5,956	8,770	-	9,414	6,487	150	8,988	619
Kentucky	1,570	44,566	109,454	154,020	118	155,708	13,679	9,507	672	7,408
Michigan	1,720	12,484	25,979	38,462	1,610	41,792	47,977	1,649	1,770	7,570
Minnesota	6,075	21,173	6,590	27,763	246	34,084	15,933	45	503	11,574
Missouri	1,768	5,069	20,403	25,472	335	27,575	20,396	242	294	-
Nebraska	218	1,513	2,898	4,411	-	4,629	9,269	635	38	-
North Dakota	885	4,374	10,408	14,782	-	15,667	3,839	3	5,528	7,930
Ohio	1,449	30,734	68,516	99,249	1,513	102,212	55,500	4,193	2,037	3,168
Oklahoma	252	3,652	17,145	20,797	-	21,049	19,027	933	38,351	-
South Dakota	362	1,749	2,933	4,682	-	5,044	1,403	-	21	-
Tennessee	144	5,232	30,139	35,371	1,666	37,181	10,318	2,281	629	263
Wisconsin	757	8,488	8,624	17,112	-	17,869	31,663	310	51	3,336
PAD District III Total	3,974	51,351	372,924	424,276	4,022	432,272	160,873	19,194	783,121	1,143
Alabama	2,662	6,325	114,416	120,740	1,870	125,273	17,460	892	19,480	-
Arkansas	19	2,583	23,636	26,219	162	26,400	8,399	1,197	2,575	-
Louisiana	-	967	28,463	29,430	1,258	30,688	44,383	3,152	370,459	34
Mississippi	638	11,648	16,470	28,117	721	29,476	37,189	396	9,886	-
New Mexico	624	-	32,955	32,955	-	33,580	4,533	3,467	17,764	-
Texas	31	29,829	156,984	186,813	12	186,856	48,909	10,091	362,958	1,109
PAD District IV Total	20,287	26,076	143,349	169,425	-	189,712	5,759	294	20,004	15,016
Colorado	2,592	19,016	14,485	33,502	-	36,093	492	68	2,501	-
Idaho	2,607	4,149	17,525	21,674	-	24,281	1,086	89	-	-
Montana	5,987	1,154	39,917	41,071	-	47,058	398	-	1,301	7,718
Utah	2,470	1,636	31,275	32,912	-	35,382	3,673	53	2,247	5,971
Wyoming	6,632	120	40,147	40,267	-	46,899	110	85	13,954	1,326
PAD District V Total	9,629	45,806	377,924	423,730	27,654	461,013	150,387	7,549	71,307	63,223
Alaska	2,900	2,687	2,203	4,890	296	8,086	4,563	13	42,121	-
Arizona	4	586	61,284	61,871	-	61,875	711	2,254	411	-
California	686	9,122	160,664	169,786	26,476	196,947	53,290	3,347	22,836	18,912
Hawaii	15	564	5,721	6,285	-	6,299	5,379	13	2,190	34,803
Nevada	3,710	1,176	104,028	105,204	91	109,005	302	575	349	-
Oregon	543	12,028	19,448	31,476	37	32,057	17,492	352	476	-
Washington	1,771	18,643	24,576	44,219	753	46,743	68,649	994	2,924	9,508

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

**Table 22. Adjusted Sales for Farm Use: Distillate Fuel Oil and Kerosene;
Adjusted Sales for Electric Utility Use: Distillate Fuel Oil
and Residual Fuel Oil, 1990**
(Thousand Gallons)

Destination	Farm				Electric	
	Diesel	Other Distillate	Total Distillate	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	3,164,157	129,635	3,293,792	21,934	733,681	8,433,489
PAD District I Total	328,089	52,460	380,548	5,436	393,599	7,051,002
Subdistrict IA Total	10,470	7,405	17,875	789	45,402	1,805,070
Connecticut	840	615	1,454	9	3,076	533,163
Maine	2,962	1,303	4,265	496	618	155,362
Massachusetts	1,707	2,614	4,321	16	36,513	931,676
New Hampshire	803	968	1,771	9	1,584	174,147
Rhode Island	487	287	774	0	3,246	10,721
Vermont	3,671	1,619	5,290	260	365	-
Subdistrict IB Total	89,063	41,981	131,045	2,471	173,225	3,373,079
Delaware	5,438	617	6,055	42	4,131	94,616
District of Columbia	-	-	-	-	43,677	-
Maryland	17,998	1,470	19,468	324	29,099	289,175
New Jersey	10,670	5,833	16,503	15	7,716	251,853
New York	25,920	17,232	43,152	1,562	35,683	2,450,991
Pennsylvania	29,037	16,830	45,868	528	52,919	286,444
Subdistrict IC Total	228,555	3,073	231,628	2,176	174,972	1,872,857
Florida	49,775	71	49,846	67	88,893	1,769,165
Georgia	83,159	610	83,769	11	9,431	-
North Carolina	31,562	589	32,151	951	15,224	-
South Carolina	26,084	431	26,515	165	7,896	-
Virginia	32,069	697	32,765	713	38,813	103,692
West Virginia	5,907	675	6,581	269	14,715	-
PAD District II Total	1,346,792	67,520	1,414,313	9,519	156,215	138,736
Illinois	170,835	7,717	178,552	805	17,417	61,367
Indiana	73,611	6,919	80,530	1,030	18,467	-
Iowa	138,875	9,446	148,321	629	4,074	-
Kansas	130,875	2,405	133,280	553	5,276	2,561
Kentucky	40,589	777	41,366	997	13,906	-
Michigan	53,607	7,706	61,313	865	26,307	53,885
Minnesota	122,004	6,421	128,425	480	4,425	-
Missouri	70,134	1,473	71,607	229	8,872	10,407
Nebraska	155,265	1,745	157,011	455	2,000	-
North Dakota	81,135	2,708	83,843	12	2,194	291
Ohio	77,050	3,276	80,327	2,303	25,253	7,165
Oklahoma	42,157	5	42,162	199	3,187	3,060
South Dakota	71,071	3,573	74,645	230	305	-
Tennessee	41,791	167	41,958	331	10,729	-
Wisconsin	77,791	13,182	90,973	402	13,802	-
PAD District III Total	775,052	863	775,915	3,986	68,470	65,793
Alabama	73,174	509	73,683	25	9,148	-
Arkansas	84,112	42	84,153	233	9,828	597
Louisiana	100,436	228	100,664	183	7,893	7,916
Mississippi	168,796	11	168,806	2,894	3,641	47,854
New Mexico	15,532	-	15,532	49	4,516	1,027
Texas	333,002	74	333,076	601	33,443	8,398
PAD District IV Total	187,944	2,082	190,026	1,055	11,873	3,399
Colorado	44,327	523	44,850	648	1,945	-
Idaho	70,494	130	70,625	12	13	680
Montana	52,584	842	53,426	286	1,896	-
Utah	7,591	246	7,837	100	3,627	2,719
Wyoming	12,948	341	13,289	8	4,393	-
PAD District V Total	526,280	6,710	532,990	1,937	103,523	1,174,555
Alaska	22	5	27	-	17,394	-
Arizona	24,808	1,746	26,555	44	3,538	2,666
California	358,589	13	358,602	1,665	5,757	670,511
Hawaii	11,398	2,760	14,158	4	70,068	490,802
Nevada	5,931	136	6,067	67	3,881	10,577
Oregon	48,069	357	48,426	82	354	-
Washington	77,463	1,692	79,156	73	2,531	-

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Table 23. Adjusted Sales for Transportation Use: Distillate Fuel Oil and Residual Fuel Oil, 1990
(Thousand Gallons)

Destination	Railroad	Vessel Bunkering		On-Highway Diesel	Total Transportation Use	
	Distillate Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil	Distillate Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	3,210,111	2,197,004	6,248,095	21,360,477	26,767,592	6,248,095
PAD District I Total	504,608	421,382	1,261,064	6,840,031	7,766,021	1,261,064
Subdistrict IA Total	29,193	57,371	55,301	762,371	848,935	55,301
Connecticut	6,349	2,110	924	198,547	207,005	924
Maine	4,967	11,872	2,577	168,243	185,081	2,577
Massachusetts	13,680	37,259	51,800	261,683	312,621	51,800
New Hampshire	62	732	-	51,811	52,605	-
Rhode Island	807	5,071	-	40,645	46,523	-
Vermont	3,329	329	-	41,442	45,100	-
Subdistrict IB Total	131,664	139,603	621,947	2,615,308	2,886,575	621,947
Delaware	1,582	3,052	34,439	52,637	57,271	34,439
District of Columbia	6,985	14	-	22,551	29,551	-
Maryland	36,782	8,746	52,191	291,462	336,990	52,191
New Jersey	30,339	87,641	275,502	420,466	538,447	275,502
New York	12,276	7,887	42,879	907,848	928,011	42,879
Pennsylvania	43,699	32,263	216,936	920,344	996,306	216,936
Subdistrict IC Total	343,751	224,408	583,816	3,462,352	4,030,511	583,816
Florida	90,668	90,755	382,842	881,047	1,062,470	382,842
Georgia	69,621	21,371	46,849	854,952	945,943	46,849
North Carolina	45,001	9,613	16,168	620,268	674,882	16,168
South Carolina	29,554	4,570	19,557	417,636	451,760	19,557
Virginia	84,328	31,726	118,399	540,468	656,523	118,399
West Virginia	24,579	66,373	-	147,981	238,933	-
PAD District II Total	1,404,284	370,818	14,385	7,315,808	9,090,909	14,385
Illinois	145,932	38,173	2,009	1,141,593	1,325,698	2,009
Indiana	232,173	7,717	7,649	801,335	1,041,225	7,649
Iowa	27,669	4,610	-	372,390	404,669	-
Kansas	199,446	-	-	310,213	509,659	-
Kentucky	122,606	83,088	-	488,180	693,874	-
Michigan	40,353	3,040	3,608	527,744	571,137	3,608
Minnesota	63,075	3,546	-	330,563	397,184	-
Missouri	26,743	64,101	826	587,288	678,131	826
Nebraska	111,048	-	-	218,344	329,392	-
North Dakota	38,475	-	-	90,699	129,174	-
Ohio	119,163	10,325	201	923,811	1,053,300	201
Oklahoma	107,974	104	-	380,222	488,300	-
South Dakota	2,483	-	-	99,095	101,578	-
Tennessee	69,356	153,631	29	605,871	828,858	29
Wisconsin	97,788	2,483	64	438,460	538,731	64
PAD District III Total	584,647	887,295	2,038,844	3,298,116	4,770,058	2,038,844
Alabama	62,906	99,452	108,534	564,351	726,709	108,534
Arkansas	36,202	2,323	-	383,712	422,236	-
Louisiana	61,749	493,239	853,968	434,629	989,617	853,968
Mississippi	18,445	66,873	60,200	310,708	396,027	60,200
New Mexico	41,154	-	-	220,011	261,165	-
Texas	364,191	225,408	1,016,141	1,384,705	1,974,305	1,016,141
PAD District IV Total	303,919	167	-	821,171	1,125,257	-
Colorado	77,364	-	-	217,149	294,513	-
Idaho	21,010	167	-	126,723	147,901	-
Montana	50,365	-	-	123,867	174,232	-
Utah	37,020	-	-	178,793	215,813	-
Wyoming	118,158	-	-	174,639	292,797	-
PAD District V Total	412,654	517,342	2,933,802	3,085,351	4,015,347	2,933,802
Alaska	5,503	140,709	5,427	82,538	228,750	5,427
Arizona	10,272	-	-	331,183	341,455	-
California	233,606	166,401	2,129,514	1,819,718	2,219,724	2,129,514
Hawaii	18	98,661	99,054	24,968	123,647	99,054
Nevada	5,527	-	-	133,250	138,777	-
Oregon	85,265	40,543	145,321	334,950	460,758	145,321
Washington	72,463	71,029	554,485	358,744	502,236	554,485

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Railroad data for distillate fuel oil are based on Association of American Railroads' statistics for railroads of Class I and Amtrak Companies.

• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

**Table 24. Adjusted Sales for Military, Off-Highway, and All Other Uses:
Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1990**
(Thousand Gallons)

Destination	Military				Off-Highway Diesel Distillate Fuel Oil			All Other		
	Diesel	Other Distillate	Total Distillate	Residual Fuel Oil	Construction	Other	Total	Distillate Fuel Oil	Residual Fuel Oil ^b	Kerosene
U.S. Total	731,932	52,469	784,401	81,992	1,581,463	194,889	1,776,352	2,541	28,791	17,780
PAD District I Total	84,149	34,537	118,686	68,575	405,502	36,682	442,184	665	135	5,477
Subdistrict IA Total	5,072	5,163	10,235	9,895	51,387	3,555	54,942	95	70	967
Connecticut	68	528	596	1,952	16,261	88	16,350	-	70	347
Maine	3,341	1,758	5,099	2,614	5,337	1,452	6,789	-	-	137
Massachusetts	859	1,154	2,013	1,516	18,476	99	18,575	-	-	276
New Hampshire	172	326	498	2,615	5,875	892	6,767	-	-	166
Rhode Island	560	1,362	1,922	1,096	1,877	8	1,885	0	-	7
Vermont	72	35	107	102	3,560	1,016	4,576	95	-	32
Subdistrict IB Total	10,695	19,695	30,390	35,537	171,646	4,713	176,358	136	16	2,884
Delaware	120	70	190	745	3,869	3	3,872	-	-	23
District of Columbia	41	4,440	4,481	96	55	-	55	-	-	-
Maryland	2,724	7,741	10,465	15,886	26,168	479	26,647	94	-	51
New Jersey	1,369	2,778	4,148	8,318	44,685	357	45,042	-	-	507
New York	4,705	4,265	8,970	8,518	34,567	2,768	37,335	21	16	1,866
Pennsylvania	1,737	400	2,137	1,974	62,301	1,105	63,406	21	-	437
Subdistrict IC Total	68,382	9,679	78,061	23,144	182,469	28,414	210,883	434	49	1,625
Florida	7,786	287	8,073	6,440	57,620	2,615	60,235	-	49	176
Georgia	5,063	1,357	6,420	3,654	29,439	10,555	39,995	-	-	82
North Carolina	3,321	4,273	7,594	3,245	23,511	3,073	26,584	152	-	422
South Carolina	2,047	985	3,032	149	19,071	10,101	29,172	0	-	333
Virginia	50,013	2,777	52,790	9,657	33,886	846	34,732	242	-	475
West Virginia	152	-	152	-	18,942	1,223	20,165	40	-	137
PAD District II Total	28,400	7,308	35,709	550	387,038	20,072	407,110	1,367	306	3,882
Illinois	1,062	338	1,401	-	69,709	491	70,201	85	67	345
Indiana	3,755	369	4,124	-	29,441	1,357	30,797	-	-	241
Iowa	470	45	514	5	9,352	1,156	10,508	180	-	155
Kansas	2,002	28	2,030	-	10,670	988	11,658	549	6	68
Kentucky	4,118	1,079	5,196	-	20,573	5	20,578	-	-	1,271
Michigan	1,236	373	1,610	-	36,629	1,196	37,825	-	65	163
Minnesota	1,215	19	1,234	-	31,390	3,090	34,479	221	-	39
Missouri	1,869	2,572	4,441	408	25,013	1,371	26,383	142	-	119
Nebraska	283	8	291	-	11,744	35	11,779	-	-	12
North Dakota	1,345	38	1,383	-	3,656	64	3,719	8	168	36
Ohio	8,187	240	8,426	-	29,939	883	30,823	-	-	290
Oklahoma	700	780	1,480	-	26,532	1,407	27,939	16	-	72
South Dakota	331	50	381	5	5,772	175	5,947	57	-	28
Tennessee	1,168	1,324	2,492	132	39,497	3,271	42,768	34	-	933
Wisconsin	660	46	705	-	37,120	4,585	41,705	74	-	110
PAD District III Total	283,379	1,042	284,421	3,287	369,504	48,319	417,823	264	-	6,722
Alabama	3,665	755	4,420	3,287	50,251	13,703	63,954	4	-	610
Arkansas	1,373	-	1,373	-	29,784	6,489	36,274	64	-	232
Louisiana	37,537	4	37,541	-	58,819	2,962	61,781	155	-	1,333
Mississippi	15,681	-	15,681	-	21,941	7,308	29,248	-	-	206
New Mexico	1,162	114	1,276	-	24,378	396	24,773	-	-	195
Texas	223,961	169	224,130	-	184,332	17,461	201,793	41	-	4,145
PAD District IV Total	9,199	3,731	12,930	1,528	86,269	13,777	100,046	216	97	99
Colorado	5,812	289	6,100	-	28,189	757	28,945	43	-	54
Idaho	287	1,612	1,899	-	11,545	7,709	19,254	64	12	16
Montana	209	236	446	-	8,202	5,130	13,332	52	-	4
Utah	2,717	1,590	4,308	1,528	17,372	178	17,550	-	-	22
Wyoming	173	4	177	-	20,962	4	20,966	57	85	3
PAD District V Total	326,804	5,851	332,655	8,051	333,149	76,040	409,189	29	28,254	1,599
Alaska	47,254	545	47,800	-	10,223	5,913	16,136	-	-	1
Arizona	3,076	-	3,076	-	38,826	2,329	41,155	-	-	133
California	227,640	213	227,853	-	201,539	21,931	223,469	-	-	409
Hawaii	38,509	-	38,509	4,332	11,361	25	11,386	-	28,189	9
Nevada	3,806	688	4,494	-	20,946	84	21,031	-	-	309
Oregon	1,401	52	1,453	35	16,463	21,663	38,126	29	64	178
Washington	5,119	4,352	9,471	3,684	33,792	24,093	57,885	-	-	560

^b Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1990, (DOE/EIA-0340(90)/1).

Technical Notes

Note 1: EIA-821: Annual Fuel Oil and Kerosene Sales Report, 1990

Background

The EIA-821, "Annual Fuel Oil and Kerosene Sales Report" survey was implemented to meet Energy Information Administration (EIA) legislative mandates and data user needs. Form EIA-821 is used to gather data on the sales to end users of distillate fuel oil, residual fuel oil, and kerosene. The data are used to determine the level of demand by end-use category and product at the State, regional, and national levels. This mandatory report is authorized by the Federal Energy Administration Act of 1974 (P. L. 93-275).

The predecessor survey to the EIA-821 was the EIA-172, "Sales Report of Fuel Oil and Kerosene" survey. The EIA-172 was conducted for reference years 1979 through 1982. Due to a serious deterioration in the sample of respondents during the 4-year period, the Form EIA-172 data were not collected for 1983. Instead, estimates for 1983 were published and a new sample of respondents was designed and selected from an improved sampling frame. The EIA-821 survey commenced with reference year 1984.

Discussion of Sampling Frame

The target population for the fuel oil and kerosene sales survey is the universe of companies that sell fuel oil and kerosene to end users.

The EIA-863 data base provided the sampling frame for the 1990 EIA-821 survey. The EIA-863, "Petroleum Product Sales Identification Survey," was mailed to approximately 27,000 companies in January 1989 to collect 1988 State-level sales volume data for No. 2 distillate, residual fuel, and motor gasoline. Companies also indicated if they sold kerosene. The No. 2 distillate data were further identified by residential and nonresidential end use, and non-end-use sales; the residual

and motor gasoline data were identified by end use and non-end-use sales. The mailing list for the EIA-863 survey was constructed by merging and unduplicating the 1985 frame file and more than 51 State and commercial lists. In addition, company/State-level volumes for distillate fuel oil, residual fuel oil, and motor gasoline from the 1988 EIA-821 survey were merged with the EIA-863 to yield a combined data file. The transformed and edited version of the frame was then used to design and select the 1990 EIA-821 sample.

It should be noted that truck stops selling No. 2 diesel fuel were not specifically included in the EIA-863 survey. Therefore, the EIA-821 survey does not include all sales of No. 2 distillate through retail truck stops. However, to compensate for this shortage in coverage, data from the Federal Highway Administration are presented in the tables for on-highway diesel sales.

The sampling frame also lacked full coverage of kerosene retailers, many of whom are hardware stores and service stations. To account for all kerosene volumes supplied to the marketplace, aggregate reported kerosene volumes are set equal to the products supplied volumes published in the *Petroleum Supply Annual*.

Discussion of the Sample Design

The purpose of the EIA-821 sample design was to produce State-level estimates of total sales for the following five target variables: (1) residential No. 2 distillate, (2) other retail No. 2 distillate, (3) wholesale No. 2 distillate, (4) retail residual, and (5) wholesale residual. A separate sample was initially designed for each target variable.

Companies were divided into two basic types of strata: certainty and noncertainty. Companies selected with certainty were:

- all refiners and gas plant operators
- companies doing business in four or more States
- companies accounting for 5 percent or more of the distillate or residual fuel oil volume for any target variable or particular end-use category sold in a State

- companies accounting for 5 percent or more of the kerosene volume sold in a State in an earlier EIA-821 survey
- augmented frame units, e.g., vessel bunkering for which no attribute data were available.

Firms determined not to be selling distillate or residual fuel oil or kerosene were removed from the frame file. Volumes for nonrespondents to the EIA-863 who had reported in the previous frame survey or in a sample survey were imputed. The imputed nonrespondents and the noncertainty companies were stratified by sales volume for each target variable. Strata boundaries were determined using the Dalenius-Hodges procedures, allowing the number of strata and the strata boundaries to vary by State. Nonrespondents for whom no previous information was available were classified in a separate stratum and sampled with reduced probabilities of selection.

Neyman allocation was used to allocate the number of companies required for each strata to obtain the required levels of accuracy: a 2.5 percent coefficient of variation for residual fuel oil and a 5 percent coefficient of variation for distillate fuel oil. Sample selections were then performed simultaneously from the same random list for the five samples to produce a final linked sample of approximately 5,500 companies. This method reduced the total survey sample size while improving volume estimates. Selected companies were asked to report sales by end-use categories for distillate and residual fuel oil and kerosene.

Imputation and Estimation

Survey data gathered from the respondents may contain incomplete reporting, total nonresponse, or values that fail editing. Missing data are estimated, or implicitly imputed for, using the strata means and treated the same as reported data. The weighted estimate is defined as follows:

$$\hat{V} = \sum_h N_h (\sum_i W_{hi} V_{hi} / \sum_i W_{hi})$$

where:

$$\begin{aligned} \hat{V} &= \text{total estimated volume,} \\ \sum_h &= \text{denotes summation over strata,} \end{aligned}$$

$$\begin{aligned} N_h &= \text{stratum population for stratum } h, \\ \sum_i &= \text{denotes summation over units within} \\ &\quad \text{stratum } h, \\ V_{hi} &= \text{volume reported for unit } i \text{ in stratum } h, \\ W_{hi} &= \text{weight attached to unit } i \text{ in stratum } h. \end{aligned}$$

where: W_{hi} is inversely proportional to the probability of inclusion in the linked sample.

The degree of imputation by product and end use at the U.S. total level ranged as follows for the 1990 EIA-821 data: distillate, 0.8 percent for military use to 4.7 percent for residential use; residual fuel oil, 0.007 percent for all other use to 6.9 percent for commercial use; and kerosene, 0.9 percent for industrial use to 4.8 percent for all other use.

Collection Methods

The EIA-821 form was mailed in January 1991 to all companies selected for participation in the 1990 reference year survey. The completed form was due to EIA on March 1, 1991. A second request was sent by certified mail to nonrespondents approximately 1 month after the filing deadline. Follow-up telephone calls were made to collect outstanding data and to verify reported data. Late submissions and resubmissions were processed when received.

Data Processing

As EIA-821 forms were received, they were logged into an automated Survey Control File which maintained company identification and survey form status information for each company selected to participate in the survey. The data were reviewed manually, entered onto the computer files, and then processed through an automated edit program which detected missing data and outlying values. Data that failed the edits were resolved through telephone calls to the data reporters and corrections were entered onto the computer files. Preliminary estimates were generated and processed through a series of validation procedures to flag and rectify potential misreporting of data. Statistical reports, including publication tables, were produced using only acceptable and verified data.

Note 2: Reliability of the Data

Two types of errors are associated with data produced from a sample survey---sampling errors and nonsampling errors. Sampling errors occur because the estimates are based on a sample rather than on a census. The particular sample used for the EIA-821 survey is one of a large number of samples of equal size which could have been selected from the sampling frame using the same sample design. Each of these samples would produce a different estimate. If the estimates were averaged over all possible samples, the result would be the same as the estimate derived from a census of the sampling frame. The sampling error is a measure of variability among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the results of a census.

Nonsampling errors and possibly biases can arise from a number of sources: (1) inability to obtain information about all cases in the sample, (2) response errors, (3) differences in the interpretation of questions or definitions, (4) mistakes in recording or coding of the data obtained, and (5) other errors of collection, response, coverage, and estimation for missing data. Bias is the difference between the average of the estimates over all possible samples of the same size and design, and the true value being estimated. It is not possible to estimate bias using the results of one sample.

Data obtained from alternate sources are not subject to sampling errors, but may be subject to nonsampling errors, the magnitudes of which are unknown. For example, kerosene estimates may have more nonsampling errors due to a lack of coverage of kerosene retailers. Nonsampling errors for survey estimates and estimates adjusted to alternate sources cannot be determined, but attempts are made throughout survey processing to minimize this type of error.

Data in Tables 1 through 12 are based on survey data which are subject to sampling errors. Coefficients of variation, which are estimates of sampling errors, are presented for the retail target variables in the following table for the 1990 survey. The coefficients of variation (CV) were estimated by:

$$CV(V) = \frac{\sqrt{\widehat{VAR}(V)}}{V}$$

where:

$$\widehat{VAR}(V) = \sum_h n_h \left(1 - \frac{n_h}{N_h}\right) S_h^2$$

$$S_h^2 = \frac{\sum_{i=1}^{n_h} W_i^2 V_i^2 + \bar{V}_h^2 \sum_{i=1}^{n_h} W_i^2 - 2\bar{V}_h \sum_{i=1}^{n_h} W_i^2 V_i}{n_h - 1}$$

$$\bar{V}_h = \frac{\sum_{i=1}^{n_h} W_i V_i}{\sum_{i=1}^{n_h} W_i}$$

$\hat{V}$ = total estimated volume,
 N_h = stratum population for stratum h,
 n_h = number of sample units in stratum h,
 V_i = volume for unit i,
 W_i = weight for unit i.

Response rates also offer some indication of the reliability and comprehensiveness of survey results. For the 1990 EIA-821 survey, the overall response rate (the number of submissions received, divided by the number of submissions solicited and expected, times 100) was 94.3 percent.

Coefficients of Variation for Sales of Fuel Oil, 1990

Geographic Area	Residential Distillate Fuel Oil	Non-Residential Retail Distillate Fuel Oil	Retail Residual Fuel Oil
U.S. Average	1.9	0.9	0.4
PAD District I Average	2.4	1.5	.4
Subdistrict IA Average	3.2	2.5	.7
Connecticut	6.2	9.1	.1
Maine	6.4	3.3	.1
Massachusetts	6.0	3.2	1.4
New Hampshire	8.2	3.2	.0
Rhode Island	3.9	3.3	.0
Vermont	5.3	3.5	.0
Subdistrict IB Average	3.8	2.4	.6
Delaware	5.5	5.5	.0
District of Columbia	14.5	.5	.0
Maryland	5.0	3.3	.1
New Jersey	5.6	3.2	.1
New York	7.9	3.0	1.0
Pennsylvania	4.1	5.9	.6
Subdistrict IC Average	3.4	2.5	.3
Florida	16.1	5.6	.3
Georgia	14.7	7.3	2.4
North Carolina	5.5	4.0	2.2
South Carolina	10.5	5.0	1.1
Virginia	5.6	5.2	.4
West Virginia	7.6	3.4	3.1
PAD District II Average	2.4	1.1	.4
Illinois	10.6	4.3	.4
Indiana	6.8	3.2	.1
Iowa	9.4	4.2	3.2
Kansas	17.6	3.0	.0
Kentucky	5.6	2.2	.1
Michigan	4.8	2.8	1.9
Minnesota	6.4	4.5	.1
Missouri	8.4	3.5	.4
Nebraska	9.2	4.6	.0
North Dakota	6.0	9.4	.6
Ohio	7.1	3.2	.1
Oklahoma	53.0	6.7	.0
South Dakota	8.9	7.7	.2
Tennessee	14.2	4.0	.1
Wisconsin	6.9	4.2	4.0
PAD District III Average	8.8	2.8	.4
Alabama	8.2	5.0	.1
Arkansas	12.0	5.3	.0
Louisiana	30.5	3.0	.0
Mississippi	11.6	8.6	.0
New Mexico	18.3	4.5	.0
Texas	67.1	5.2	.8
PAD District IV Average	6.6	2.1	1.3
Colorado	12.8	3.7	.0
Idaho	8.2	5.8	.0
Montana	16.8	9.0	4.4
Utah	10.1	2.1	.8
Wyoming	8.9	2.2	.7
PAD District V Average	2.9	3.4	1.3
Alaska	4.0	2.2	.0
Arizona	2.4	6.5	.0
California	10.3	6.0	2.0
Hawaii	.0	1.3	.0
Nevada	3.1	2.2	.4
Oregon	6.6	6.0	1.7
Washington	4.9	5.0	.1

Note: Coefficients of variation that are less than 0.1 and greater than zero are displayed as 0.1.

Source: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1990.

Note 3: Data Adjustments

Alternate Source Data

After all preliminary tabulations were verified, comparisons were made between the survey results and available alternate source data. The following end-use categories were replaced by alternate source data at the U.S., Petroleum Administration for Defense (PAD) district, or State level:

Tables 1 through 12:

On-Highway Diesel. Distillate fuel oil by State was calculated from the Federal Highway Administration data on highway use of special fuels. Of the 1986 through 1990 special fuels, more than 98 percent is diesel.

Tables 13 through 24:

Electric Utility. National-level distillate and residual fuel oil sales for electric utility use were calculated from annual aggregations of data collected on forms EIA-759, "Monthly Power Plant Report," and FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." Form EIA-759 consumption data for light oils include No. 2 fuel oil, kerosene, and jet fuel; the heavy oils include No. 4 fuel oil, residual fuel oil, and crude oil. Using receipt data from Form FERC-423, the No. 4 fuel oil receipts were deleted from the heavy oil consumption data and added to the light oil consumption data. The resultant distillate (light oils) and residual (heavy oils) consumption data were added to the stock change of light oils and heavy oils, respectively, from Form EIA-759 to obtain the estimate of sales. Allocations at the State level were based on the EIA-821 survey.

Military. The national data on residual fuel oil issued to defense installations (Defense Fuel Supply Center's Defense Energy Information System (DFSC DEIS) Report) were allocated by State based on the EIA-821 survey.

On-Highway Diesel. Distillate fuel oil by State was calculated from the Federal Highway Administration data on highway use of special fuels. Of the 1986 through 1990 special fuels, more than 98 percent is diesel.

Railroad. Distillate fuel oil used by Class I railroads and Amtrak at the U.S. level was obtained from the Association of American Railroads. State-level allocations were based on the EIA-821 survey.

Vessel Bunkering. In previous years, estimates of vessel bunkering residual fuel oil volumes obtained from the Bureau of the Census report, *United States Foreign Trade, Bunker Fuels*, were used in Tables 13 through 24. This Census report was discontinued after release of the 1989 statistics. Estimates of residual fuel oil sales for vessel bunkering from the EIA-821 survey are now presented in these tables for 1990 and, to provide a continuous data series, have replaced the Census estimates for earlier years.

1986 through 1990 Adjustments

Kerosene volumes in Tables 1 through 12 were adjusted at the national level to equal products supplied volumes as published in the "Detailed Statistics" section of the *Petroleum Supply Annual*, 1986 through 1990. The 1990 survey resulted in 647,407 thousand gallons of kerosene at the national level. The products supplied volume at the national level for kerosene was 652,008 thousand gallons. Hence, the adjustment factor at the national level for 1990 was 1.007.

Volumes of distillate fuel oil and kerosene in Tables 13 through 24 were adjusted at the PAD district level to equal products supplied volumes. The adjustment factors at the PAD district level for 1990 are as follows:

Distillate Fuel Oil

- PAD District I: .82
- PAD District II: .83
- PAD District III: 1.42
- PAD District IV: .96
- PAD District V: 1.08

Kerosene

- PAD District I: .66
- PAD District II: 1.86
- PAD District III: 2.40
- PAD District IV: 1.02
- PAD District V: 3.40

For Tables 13 through 24, total sales at the PAD district level equal the products supplied volumes as reported in the *Petroleum Supply Annual* (PSA), 1986 through 1990. For example, the 1990 survey yielded a volume for distillate residential use in PAD District II of 1,152,954 thousand gallons. The total distillate volume for PAD District II was 5,315,771 from the survey, after subtracting the volume coming from alternate sources. The product supplied total distillate volume for PAD District II was 4,423,119 after removing alternate source volume. Hence, the adjusted 1990 estimate of distillate for residential use in PADD II was $(4,423,119/5,315,771) \times 1,152,954 = 959,344$.

For distillate fuel oil in Tables 13 through 24, the PAD district adjustments were made to each State and product-use category except on-highway diesel use, electric utility use, and railroad use.

Volumes of residual fuel oil in Tables 13 through 24 were adjusted at the national level to equal the products supplied estimate. The 1990 survey yielded 19,233,428 thousand gallons of residual fuel oil, while the products supplied volume at the national level was 18,837,882 thousand gallons. Thus, the adjustment factor at the national level for 1990 was .988, after subtracting the volumes coming from alternate sources. For residual fuel oil, the adjustments were made to each State and end-use category except military and electric utility use.

Note 4: End-Use Descriptions and Petroleum Product Definitions

End-Use Descriptions

Residential Use. Includes sales for use in private households for space heating, water heating, cooking, etc. Sales to farm houses are reported under "Farm Use."

Commercial Use. Includes sales for use in nonmanufacturing establishments such as motels, apartment buildings, restaurants, retail stores, institutions, government buildings, schools, and laundries for space heating, water heating, and cooking. Volumes used by companies in the marketing and distribution of petroleum products are also included.

Industrial Use. Includes sales to mines, smelters, and plants engaged in producing manufactured products, processing and assembling goods, etc. Also includes space heating. Excludes oil company use, as defined below.

Oil Company Use. Includes sales to drilling companies, pipelines or other related oil companies not engaged in the selling of petroleum products. Includes fuel oil that was purchased or produced and used by company facilities for the operation of drilling equipment, other field or refinery operations, and space heating at petroleum refineries, pipeline companies, and oil-drilling companies. Oil used to bunker vessels is counted under vessel bunkering. Sales to other oil companies for field use are included, but sales for use as refinery charging stocks are excluded.

Farm Use. Includes sales for use in tractors, irrigation pumps and other agricultural machinery, as well as

that used for crop drying, smudge pot fuel, space heating of buildings (including farm houses), cooking, and any other use by the agriculture industry.

Electric Utility Companies. Includes sales to electric utility companies, including that used for the generation of electricity. Volumes imported and used directly by electric utility companies are also included.

Railroad Use. Includes sales to railroads, for any use, including that used for heating buildings operated by railroads.

Vessel Bunkering. Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

On-Highway Diesel Use. Includes sales for use in motor vehicles.

Military Use. Includes sales to the Armed Forces, including volumes sold to the Defense Fuel Supply Center (DFSC) for use by all branches of the Department of Defense (DOD).

Off-Highway Diesel Use. Includes sales for use in:

1. **Construction.** Construction equipment including earthmoving equipment, cranes, stationary generators, air compressors, etc.
2. **Other.** Sales for off-highway uses other than construction. Sales for logging are included in this category. Volumes for off-highway diesel use by the agriculture industry are reported under "Farm Use."

All Other Uses. Sales for all other uses not included in any other end-use category are reported here.

Definitions of Petroleum Products and Other Related Terms

ASTM. The acronym for the American Society for Testing and Materials.

Distillate Fuel Oil. A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels.

1. **No. 1 Distillate.** A petroleum distillate which meets the specifications for No. 1 heating or fuel oil as defined in ASTM D 396 and/or the specifications for No. 1 diesel fuel as defined in ASTM Specification D 975.

a. **No. 1 Diesel Fuel.** A volatile distillate fuel oil with a boiling range between 300 and 575 degrees Fahrenheit and used in high-speed diesel engines generally operated under wide variations in speed and load. Includes type C-B diesel fuel used for city buses and similar operations. Properties are defined in ASTM Specification D 975.

b. **No. 1 Fuel Oil.** A light distillate fuel oil intended for use in vaporizing pot-type burners. ASTM Specification D 396 specifies for this grade maximum distillation temperatures of 400 degrees Fahrenheit at the 10-percent point and 550 degrees Fahrenheit at the 90-percent point, and kinematic viscosities between 1.4 and 2.2 centistokes at 100 degrees Fahrenheit.

2. **No. 2 Distillate.** A petroleum distillate which meets the specifications for No. 2 heating oil or fuel oil as defined in ASTM D 396 and/or the specifications for No. 2 diesel fuel as defined in ASTM Specification D 975.

a. **No. 2 Diesel Fuel.** A gas oil type distillate of lower volatility with distillation temperatures at the 90-percent point between 540 and 640 degrees Fahrenheit for use in high speed diesel engines generally operated under uniform speed and load conditions. Includes Type R-R diesel fuel used for railroad locomotive engines, and Type T-T for diesel-engine trucks. Properties are defined in ASTM Specification D 975.

b. **No. 2 Fuel Oil.** A distillate fuel oil for use in atomizing type burners for domestic heating or for moderate capacity commercial-industrial burner units. ASTM Specification D 396 specifies for this grade distillation temperatures at the 90-percent point between 540 and 640 degrees Fahrenheit, and kinematic viscosities between 2.0 and 3.6 centistokes at 100 degrees Fahrenheit.

3. **No. 4 Fuel.** A fuel oil for commercial burner installations not equipped for preheating facilities. It is used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks that conforms to ASTM Specification D 396 or Federal Specification VV-F-815C; its kinematic viscosity is between 5.8 and 26.4 centistokes at 100 degrees Fahrenheit. Also included is No. 4-D, a fuel oil for low- and medium-speed diesel engines that conforms to ASTM Specification D 975.

Kerosene. A petroleum distillate that boils at a temperature between 300 and 550 degrees Fahrenheit, that has a flash point higher than 100 degrees Fahrenheit by ASTM Method D 56, that has a gravity range from 40 to 46 degrees API, and that has a burning point in the range of 150 degrees to 175 degrees Fahrenheit. Included are the two classifications recognized by ASTM Specification D 3699: No. 1-K and No. 2-K, and all grades of kerosene called range or stove oil which have properties similar to No. 1 fuel oil, but with a gravity of about 43 degrees API and a maximum end-point of 625 degrees Fahrenheit. Kerosene is used in space heaters, cook stoves, and water heaters and is suitable for use as an illuminant when burned in wick lamps.

NOTE: Respondents to the EIA-821 survey were instructed to report all volumes in accordance with what the product was sold as, regardless of the actual specifications of that product. For example, if a No. 2 distillate was sold as a heating oil or fuel oil, the volume would be reported in the category "No. 2 Fuel Oil" even if the product conformed to the higher specifications of a diesel fuel.

PAD District. Petroleum Administration for Defense Districts

PAD District I:

Subdistrict IA. Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Subdistrict IB. Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania

Subdistrict IC. Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia

PAD District II:

Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio, Oklahoma, Tennessee, and Wisconsin

PAD District III:

Alabama, Arkansas, Louisiana, Mississippi, New Mexico, and Texas

PAD District IV:

Colorado, Idaho, Montana, Utah, and Wyoming

PAD District V:

Alaska, Arizona, California, Hawaii, Nevada, Oregon, and Washington

Residual Fuel Oils. The topped crude of refinery operations, which includes No. 5 and No. 6 fuel oils, as

defined in ASTM Specification D 396 and Federal Specification, VV-F-815C; Navy Special fuel oil as defined in Military Specification MIL-F-859E including Amendment 2 (NATO symbol F-77); and Bunker C fuel oil. Residual fuel oil is used for the production of

electric power, space heating, vessel bunkering, and various industrial purposes.

United States. The 50 States and the District of Columbia.

Appendix

**Table A1. Adjusted Sales of Residual Fuel Oil by End Use,
1985 and 1986 (Thousand Gallons)**

Destination	Commercial		Industrial		Oil Company		Electric Utility	
	1985	1986	1985	1986	1985	1986	1985	1986
U.S. Total	1,576,415	1,928,769	3,859,841	3,898,672	1,089,795	776,600	6,183,984	9,041,608
PAD District I Total	1,386,677	1,633,412	2,517,316	2,484,904	75,286	99,824	5,486,767	7,911,014
Subdistrict IA Total	284,615	346,905	697,703	1,099,178	1,520	51	1,743,604	2,404,576
Connecticut	73,111	67,150	94,352	97,146	1,270	29	858,843	492,896
Maine	45,260	61,127	148,087	289,596	250	22	18,793	172,921
Massachusetts	137,424	143,373	364,253	567,600	-	-	861,009	1,537,091
New Hampshire	3,774	21,841	44,567	82,690	-	-	-	157,651
Rhode Island	24,016	47,761	42,365	48,103	-	-	4,959	44,017
Vermont	1,029	5,653	4,079	14,042	-	-	-	-
Subdistrict IB Total	950,209	1,073,242	574,955	645,533	61,835	86,533	2,842,911	3,722,094
Delaware	3,067	6,583	27,989	9,529	-	19,679	25,065	51,886
District of Columbia	12,459	41,858	35	-	-	-	-	-
Maryland	10,976	36,305	38,799	37,466	5,069	2,251	169,228	179,662
New Jersey	136,160	113,706	191,495	190,271	19,524	8,093	894,173	925,289
New York	726,003	835,206	237,715	249,472	2,378	1,640	1,411,672	2,051,424
Pennsylvania	61,544	39,585	78,923	158,794	34,864	54,870	342,773	513,833
Subdistrict IC Total	151,853	213,265	1,244,659	740,193	11,931	13,240	900,252	1,784,344
Florida	94,480	117,102	272,518	157,332	223	831	825,493	1,638,824
Georgia	20,377	43,492	450,969	64,770	565	122	757	4,809
North Carolina	14,015	10,079	251,401	247,430	-	1,651	-	5,410
South Carolina	3,466	1,379	96,971	72,137	123	1,473	-	7,152
Virginia	19,295	40,823	140,290	156,569	1,540	2,038	74,002	128,130
West Virginia	220	390	32,509	41,955	9,480	7,125	-	19
PAD District II Total	74,770	104,722	324,389	495,112	282,074	219,264	13,486	156,135
Illinois	14,880	37,228	42,479	54,022	105,399	78,774	1,025	98,833
Indiana	16,871	10,166	30,582	86,125	113,176	81,423	25	-
Iowa	45	1,614	6,164	19,633	-	-	-	8
Kansas	-	363	2,113	15,709	681	3,686	528	-
Kentucky	33	1,327	13,941	19,785	13,023	9,809	-	-
Michigan	11,918	9,620	83,871	89,447	12,245	8,303	2,228	43,893
Minnesota	9,693	12,840	12,597	51,032	8,281	9,385	8,073	140
Missouri	5,239	5,385	24,083	15,677	-	-	1,262	9,224
Nebraska	-	-	1,400	8,152	-	-	-	-
North Dakota	2,794	3,265	9,368	4,236	9,500	7,165	116	522
Ohio	3,620	6,692	67,252	70,761	14,415	15,721	228	3,515
Oklahoma	-	-	8,803	15,785	339	360	-	-
South Dakota	815	295	701	2,159	-	-	-	-
Tennessee	4,239	5,380	19,170	18,069	-	-	-	-
Wisconsin	4,623	10,548	1,865	24,520	5,014	4,638	-	-
PAD District III Total	59,007	47,285	479,823	235,868	29,743	7,439	150,295	378,675
Alabama	22,353	23,333	4,140	23,249	19	-	-	1,869
Arkansas	-	145	31,617	36,604	-	-	-	639
Louisiana	25,046	9,665	232,118	70,679	657	1,760	136,123	172,403
Mississippi	469	3,793	3,889	51,469	-	122	1,365	73,925
New Mexico	157	-	33,972	9,248	-	25	327	723
Texas	10,984	10,350	174,087	44,619	29,068	5,532	12,481	129,116
PAD District IV Total	11,542	11,045	14,243	14,457	11,817	9,586	-	68
Colorado	46	3,024	1,589	7,256	134	11	-	-
Idaho	1,091	134	2,638	708	-	-	-	-
Montana	5,455	1,558	236	349	-	-	-	68
Utah	1,957	1,771	9,528	4,956	6,095	8,063	-	-
Wyoming	2,992	4,558	252	1,187	5,588	1,513	-	-
PAD District V Total	44,419	132,305	524,070	668,330	690,874	440,489	533,436	595,717
Alaska	-	69,070	112,149	109,635	-	9,577	-	474
Arizona	7	-	1,332	1,597	-	-	-	-
California	1,536	40,256	121,578	195,529	645,012	384,540	53,660	170,059
Hawaii	905	2,801	8,271	11,753	30,229	30,153	479,458	410,745
Nevada	1,107	586	3,849	4,013	1	917	-	13,874
Oregon	8,300	13,742	64,317	89,344	3,413	682	-	-
Washington	32,564	5,850	212,573	256,459	12,219	14,620	319	565

See footnotes at end of table.

**Table A1. Adjusted Sales of Residual Fuel Oil by End Use,
1985 and 1986—Continued (Thousand Gallons)**

Destination	Vessel Bunkering		Military		All Other ^a		Total	
	1985	1986	1985	1986	1985	1986	1985	1986
U.S. Total	5,297,018	5,690,328	192,918	180,918	224,417	226,649	18,431,280	21,744,114
PAD District I Total	1,156,569	1,390,629	147,718	144,921	15,219	30,765	10,790,850	13,695,696
Subdistrict IA Total	16,961	22,906	41,174	16,575	1,832	799	2,787,408	3,891,202
Connecticut	5,923	611	1,027	1,555	225	-	1,034,752	659,386
Maine	901	2,707	-	182	-	-	213,291	526,767
Massachusetts	10,137	19,291	40,146	11,083	1,402	136	1,414,371	2,278,574
New Hampshire	-	42	-	3,756	-	-	48,341	265,979
Rhode Island	-	256	-	-	-	663	71,340	140,800
Vermont	-	-	-	-	205	-	5,313	19,695
Subdistrict IB Total	653,683	900,767	52,668	66,067	3,179	27,373	5,144,733	6,521,626
Delaware	10,117	23,157	-	2,646	274	-	66,512	113,480
District of Columbia	-	-	12,673	6,111	-	-	25,166	47,969
Maryland	53,248	41,477	17,998	16,828	611	-	295,930	313,989
New Jersey	469,910	584,869	8,234	34,107	184	25,972	1,723,337	1,882,306
New York	29,774	62,110	12,535	3,248	1,660	1,401	2,421,737	3,204,502
Pennsylvania	90,634	189,155	1,228	3,127	450	-	612,051	959,379
Subdistrict IC Total	485,925	466,955	53,877	62,279	10,208	2,593	2,858,710	3,282,868
Florida	293,258	297,352	9,737	33,956	765	1,928	1,496,474	2,247,325
Georgia	43,855	27,324	90	2,272	1,085	-	517,697	142,789
North Carolina	4,063	4,377	217	1,960	1,703	665	271,400	271,572
South Carolina	25,140	23,361	1,799	3,734	129	-	127,628	109,235
Virginia	119,609	114,541	42,033	20,357	6,525	-	403,296	462,458
West Virginia	-	-	-	-	-	-	42,214	49,489
PAD District II Total	23,186	10,611	5,056	5,333	14,716	3,296	739,116	994,812
Illinois	7,850	3,354	336	408	224	14	172,232	272,632
Indiana	1,299	1,842	39	382	1,676	447	163,686	180,385
Iowa	-	-	-	-	1,598	-	7,807	21,255
Kansas	-	-	-	-	73	-	3,395	19,775
Kentucky	-	-	-	-	-	-	26,997	30,921
Michigan	1,546	74	3,970	2,429	26	261	115,805	154,028
Minnesota	5,367	1,195	-	-	-	480	45,392	75,318
Missouri	1,145	-	711	2,114	110	17	32,552	32,417
Nebraska	-	-	-	-	1,272	185	2,672	8,344
North Dakota	-	-	-	-	265	1,045	22,044	16,300
Ohio	-	160	-	-	9,464	-	94,380	96,850
Oklahoma	-	-	-	-	7	-	5,149	16,145
South Dakota	-	-	-	-	-	-	1,515	2,455
Tennessee	-	-	-	-	-	847	23,409	24,296
Wisconsin	5,979	3,986	-	-	-	-	17,421	43,691
PAD District III Total	1,808,599	2,198,090	5,004	3,116	120,039	20,850	2,652,510	2,891,322
Alabama	68,090	56,525	4,725	-	-	-	99,326	104,976
Arkansas	-	-	-	-	-	-	31,617	37,387
Louisiana	751,907	998,875	-	3,116	63,420	678	1,209,270	1,257,175
Mississippi	48,315	73,778	-	-	-	-	54,038	203,088
New Mexico	-	-	-	-	-	-	34,455	9,996
Texas	940,287	1,068,912	279	-	56,619	20,172	1,223,804	1,278,700
PAD District IV Total	6,149	-	54	-	393	751	44,352	35,910
Colorado	6,149	-	49	-	-	-	8,113	10,294
Idaho	-	-	-	-	-	-	3,729	843
Montana	-	-	5	-	75	63	5,772	2,038
Utah	-	-	-	-	-	-	17,580	14,790
Wyoming	-	-	-	-	318	688	9,158	7,946
PAD District V Total	2,302,516	2,090,998	35,085	27,548	74,051	170,987	4,204,452	4,126,374
Alaska	816	4,749	-	-	-	81,214	112,965	274,718
Arizona	-	-	-	-	-	-	1,339	1,597
California	1,867,755	1,526,203	26,487	18,444	48,660	49,587	2,764,688	2,384,618
Hawaii	64,210	65,143	3,137	-	19,985	39,779	606,195	560,374
Nevada	-	-	-	253	-	199	4,958	19,842
Oregon	134,511	125,968	24	-	5,348	75	215,913	229,811
Washington	235,224	368,936	5,438	8,851	58	132	498,394	655,413

^a Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1985 and 1986.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1985 and 1986, (DOE/EIA-0340(85)/1 - (86)/1).

**Table A2. Adjusted Sales of Residual Fuel Oil by End Use,
1987 and 1988 (Thousand Gallons)**

Destination	Commercial		Industrial		Oil Company		Electric Utility	
	1987	1988	1987	1988	1987	1988	1987	1988
U.S. Total	1,805,365	1,827,723	3,195,873	3,071,772	643,308	520,507	7,631,898	9,540,878
PAD District I Total	1,480,579	1,466,411	1,949,969	1,839,893	78,059	95,664	6,932,080	8,048,533
Subdistrict IA Total	241,194	329,450	664,543	522,777	-	284	2,416,248	2,341,607
Connecticut	54,699	57,318	83,206	87,766	-	284	776,584	706,921
Maine	29,689	79,012	175,371	209,128	-	-	165,440	184,248
Massachusetts	119,745	144,007	300,058	153,609	-	-	1,318,023	1,219,964
New Hampshire	11,858	20,514	60,528	38,207	-	-	124,555	199,724
Rhode Island	21,360	26,054	35,139	26,625	-	-	31,645	30,750
Vermont	3,843	2,545	10,241	7,442	-	-	-	-
Subdistrict IB Total	1,066,626	978,208	704,760	612,493	70,645	89,658	3,123,313	3,959,641
Delaware	6,974	7,466	32,471	29,169	6,791	17,934	97,830	131,732
District of Columbia	34,541	9,333	-	-	-	-	-	-
Maryland	76,806	30,218	31,592	40,889	2,125	3,654	180,516	214,869
New Jersey	100,366	119,960	254,065	213,947	1,938	7,318	319,839	565,072
New York	797,466	763,022	211,896	201,656	1,539	1,170	2,106,237	2,642,176
Pennsylvania	50,473	48,209	174,737	126,832	58,253	59,582	418,891	405,791
Subdistrict IC Total	172,759	158,753	580,665	704,623	7,414	5,722	1,392,519	1,747,284
Florida	85,142	88,487	74,799	167,544	23	200	1,175,781	1,610,455
Georgia	41,771	32,217	61,028	71,707	432	701	6,566	3,106
North Carolina	2,642	11,859	231,628	225,540	2,032	2,072	-	-
South Carolina	1,422	1,964	77,056	103,033	-	117	-	-
Virginia	41,628	16,964	117,772	119,418	759	742	210,172	133,724
West Virginia	154	7,263	18,382	17,381	4,168	1,890	-	-
PAD District II Total	78,972	82,261	469,906	494,090	155,707	164,634	181,427	207,313
Illinois	38,280	24,317	76,367	74,245	37,692	50,657	133,635	88,120
Indiana	11,690	10,113	72,869	61,213	61,650	53,741	-	-
Iowa	746	829	3,846	10,002	-	-	-	-
Kansas	13	32	9,224	21,134	4,519	7,818	-	857
Kentucky	35	1,619	26,577	13,378	9,182	8,898	-	-
Michigan	5,641	8,085	74,299	81,140	10,292	9,309	28,588	84,750
Minnesota	5,415	12,453	36,099	29,799	8,847	10,694	-	18
Missouri	5,017	4,234	22,454	22,316	-	-	10,994	10,100
Nebraska	11	551	8,618	13,525	16	-	5,047	4,395
North Dakota	1,401	1,940	4,562	5,412	7,860	7,334	287	149
Ohio	2,085	3,314	68,861	87,850	11,303	10,326	2,876	18,924
Oklahoma	684	241	13,205	27,340	-	-	-	-
South Dakota	309	931	1,945	2,194	-	-	-	-
Tennessee	2,785	3,194	10,418	14,735	218	245	-	-
Wisconsin	4,859	10,408	40,561	29,806	4,127	5,613	-	-
PAD District III Total	50,753	62,232	160,990	212,365	6,943	2,413	8,167	71,158
Alabama	16,072	29,705	22,904	28,443	787	950	-	-
Arkansas	-	-	11,137	9,227	-	-	156	5,737
Louisiana	11,229	9,022	88,439	118,516	1,541	634	814	9,319
Mississippi	954	680	2,672	28,240	-	-	5,781	46,542
New Mexico	-	-	2,372	3,287	17	-	546	1,430
Texas	22,497	22,826	33,465	24,652	4,598	829	869	8,132
PAD District IV Total	6,934	7,626	8,991	11,506	8,132	15,668	-	148
Colorado	-	-	1,446	222	-	-	-	51
Idaho	404	284	2,270	2,086	-	-	-	-
Montana	539	368	408	1,211	-	7,724	-	-
Utah	4,737	1,982	4,226	5,392	6,014	4,756	-	-
Wyoming	1,254	4,991	641	2,596	2,118	3,188	-	97
PAD District V Total	188,128	209,194	606,017	513,918	394,467	242,120	510,225	1,213,726
Alaska	82,403	13,015	42,834	-	-	-	-	139
Arizona	-	39	734	1,315	-	-	333	1,110
California	39,804	34,599	267,032	181,656	345,172	187,029	61,948	673,885
Hawaii	53,932	138,150	6,943	5,742	33,359	37,536	433,360	500,191
Nevada	460	230	2,717	4,314	1,045	884	14,063	38,401
Oregon	9,223	13,920	65,203	65,164	1,009	2,318	-	-
Washington	2,305	9,241	220,553	255,727	13,882	14,361	520	-

See footnotes at end of table.

**Table A2. Adjusted Sales of Residual Fuel Oil by End Use,
1987 and 1988—Continued** (Thousand Gallons)

Destination	Vessel Bunkering		Military		All Other ^a		Total	
	1987	1988	1987	1988	1987	1988	1987	1988
U.S. Total	5,869,154	6,025,521	191,045	137,287	46,111	55,832	19,383,168	21,179,550
PAD District I Total	1,462,823	1,337,845	178,542	105,464	7,953	4,474	12,090,414	12,898,284
Subdistrict IA Total	16,861	49,303	31,375	23,830	-	-	3,370,603	3,267,251
Connecticut	352	1,256	3,488	4,924	-	-	918,330	858,469
Maine	203	17,585	2,145	-	-	-	373,231	489,973
Massachusetts	15,856	23,375	4,484	5,785	-	-	1,758,166	1,546,740
New Hampshire	27	637	12,449	6,363	-	-	209,417	265,445
Rhode Island	422	6,451	8,676	6,758	-	-	97,242	96,637
Vermont	-	-	133	-	-	-	14,218	9,987
Subdistrict IB Total	930,234	786,641	68,158	47,454	7,556	3,987	5,971,292	6,478,084
Delaware	49,347	36,730	1,488	-	-	-	194,912	223,030
District of Columbia	-	-	-	499	-	-	34,541	9,832
Maryland	55,036	90,026	42,371	23,654	-	-	388,445	403,311
New Jersey	499,660	315,569	7,441	6,920	1,252	82	1,184,561	1,228,869
New York	81,279	117,063	13,176	13,303	6,303	3,906	3,217,896	3,742,295
Pennsylvania	244,912	227,254	3,672	3,078	-	-	950,938	870,746
Subdistrict IC Total	515,728	501,900	79,009	34,180	397	487	2,748,519	3,152,949
Florida	348,526	337,112	51,075	9,476	145	234	1,735,490	2,213,508
Georgia	19,870	17,328	1,403	1,783	-	-	131,070	126,844
North Carolina	19,837	8,452	9,668	10,411	252	253	266,059	258,587
South Carolina	23,698	27,789	1,284	5,360	-	-	103,459	138,261
Virginia	103,798	111,219	15,578	7,149	0	-	489,736	389,216
West Virginia	-	-	-	-	-	-	22,705	25,534
PAD District II Total	11,765	23,318	1,582	4,921	1,327	227	900,690	976,794
Illinois	4,289	14,555	-	155	-	37	290,264	252,086
Indiana	4,733	6,477	-	-	-	-	150,942	131,544
Iowa	-	-	438	-	-	-	5,030	10,830
Kansas	-	-	-	-	-	-	13,756	29,841
Kentucky	-	-	-	-	-	-	35,794	23,896
Michigan	1,268	1,247	1,144	-	40	-	121,271	184,531
Minnesota	168	290	-	-	185	175	50,714	53,440
Missouri	-	-	-	4,218	-	-	38,466	40,887
Nebraska	-	-	-	-	10	15	13,706	18,486
North Dakota	-	-	-	-	1,092	-	15,203	14,835
Ohio	1,287	496	-	-	-	-	86,412	120,909
Oklahoma	-	-	-	-	-	-	13,889	27,581
South Dakota	-	-	-	-	-	-	2,254	3,126
Tennessee	20	63	-	548	-	-	13,442	18,784
Wisconsin	-	190	-	-	-	-	49,547	46,017
PAD District III Total	1,865,065	2,055,502	579	4,292	20,103	19,805	2,112,600	2,427,768
Alabama	62,107	85,567	579	28	-	-	102,450	144,694
Arkansas	-	-	-	-	-	-	11,292	14,964
Louisiana	906,904	971,084	-	4,264	1,720	1,570	1,010,649	1,114,409
Mississippi	76,135	73,550	-	-	-	-	85,543	149,011
New Mexico	-	-	-	-	-	-	2,935	4,717
Texas	819,920	925,302	-	-	18,383	18,235	899,731	999,974
PAD District IV Total	-	-	-	-	975	38	25,032	34,986
Colorado	-	-	-	-	-	-	1,446	273
Idaho	-	-	-	-	-	-	2,675	2,370
Montana	-	-	-	-	12	-	959	9,304
Utah	-	-	-	-	-	-	14,977	12,130
Wyoming	-	-	-	-	962	38	4,976	10,909
PAD District V Total	2,529,501	2,608,856	10,341	22,610	15,754	31,287	4,254,432	4,841,718
Alaska	4,951	5,878	-	-	-	-	130,188	19,032
Arizona	-	-	-	-	-	-	1,067	2,463
California	2,003,427	1,963,223	4,934	7,162	-	-	2,722,317	3,047,554
Hawaii	44,546	65,924	1,163	3,191	15,659	31,053	588,962	781,787
Nevada	-	-	-	-	-	-	18,285	43,829
Oregon	136,293	177,062	2,630	236	-	35	214,358	258,735
Washington	340,284	396,768	1,615	12,021	95	200	579,254	688,318

^a Residual fuel oil for Railroad end use was removed as a category from the 1990 EIA-821 Survey. Any volumes that would have appeared in this category are included in the All Other end-use category.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

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